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ABSTRACT

Project Africa, a social studies curriculum research and development project, is primarily engaged in testing new materials and techniques for teaching about Africa south of the Sahara in American secondary schools. The purpose of this technical report is to highlight the program's strengths and weaknesses from a variety of viewpoints -- those of scholars, teachers and students. Evaluation data, collected by a variety of instruments and procedures, will be used to design new materials and techniques for teaching about Africa. The document should be used as a working paper with constant reference to the instructional materials and teaching guides. The Project materials are now available to interested educators to refine further and to adapt to the specific needs, interests and abilities of their own particular students. (Author/LS)

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EVALUATION

OF

Africa South of the Sahara

AN INQUIRY PROGRAM FOR GRADES 7-10

PREPARED BY:

BARRY K. BEYER
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E. PERRY HICKS

PROJECT AFRICA
BAKER HALL
CARNEGIE–MELLON UNIVERSITY
Pittsburgh, Pennsylvania

FALL 1969

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The research reported herein was performed pursuant to a contract with the United States Department of Health, Education and Welfare, Office of Education.

PROJECT AFRICA

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INTRODUCTION

Project Africa is a social studies curriculum research and development project centered at Carnegie-Mellon University pursuant to a contract with the United States Department of Health, Education and Welfare, Office of Education. Its primary purpose is to engage in research and testing of new materials and techniques for teaching about Africa south of the Sahara in American secondary schools.

This report is part of this research. It is a summary of the formal field-trial evaluation of a sixteen-week program of study, Africa south of the Sahara: An Inquiry Program, designed specifically for average-ability, social studies students in grades seven through ten in American schools. The primary objectives of this program of study are to help students gain a more accurate understanding of the peoples of Africa while simultaneously developing and refining their skills of intellectual inquiry.

The program itself is highly flexible. It may stand complete in itself as a one-semester course or parts of it may be used independently of each other in seventh through tenth grade courses where African history, geography, cultures or contemporary life are already studied. In addition to an introductory unit, the program consists of three depth studies--one each on people, history and contemporary life. Each of these studies is built around a book of student readings, a teaching guide and assorted audio, visual and printed media. Copies of these materials are now in the public domain and may be obtained from the ERIC Document Reproduction Service (see appendix A).

The materials and techniques that comprise this program of study were evaluated in field-trials conducted in schools throughout the United States during the Spring semester of 1969. This evaluation was designed to seek answers to the following questions:

1. Is the content used in the Program accurate and representative of current research knowledge?
2. Are the materials, strategies and techniques workable in classes of average-ability students?
3. What do the materials, used as prescribed, do for students in terms of knowledge, intellectual skills and attitudes toward selected topics?

Limited resources prevented the implementation of the original evaluation design.* Instead, in order to answer the first question several specialists were asked to examine and critique the program materials in detail. Their reactions and comments were made in the form of extended letters, personal reports to Project staff and notations on the Project materials which they examined. A summary of their comments was compiled by William E. Garland, Project Research Associate, and appears as Part I of this report.

To answer questions two and three, the Project materials were field-tested in twenty-two school systems scattered throughout the

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*For example, plans to investigate the impact of inquiry-teaching on teachers themselves and efforts to undertake detailed observation of the experimenting classes had to be abandoned.

United States. Eighteen of the teachers who worked with these materials in these systems had had no contact at all with Project Africa prior to their participation in this phase of the evaluation. Four additional teachers, each of whom had previously worked on Project materials, also assisted in collecting evaluative information. Each of the twenty-two evaluating teachers completed a detailed questionnaire at the conclusion of the introduction and each of the three major units. These, along with annotated copies of the teaching guides, were returned to the Project and analyzed by Project Research Associate Sven E. Hammar. His summary of the teacher evaluations of the program appears as Part II of this report.

Students also evaluated this program. Approximately 700 reactionnaires were returned to the Project by students who had used the program in their classes. In addition, a survey of attitudes towards school, social studies, Africa and other related topics was administered to all students in experimenting and control groups at the conclusion of the field trials. Summaries of the results of thse evaluations are included in Part III of this report. The summary of the attitude survey was prepared by Professor E. Perry Hicks, Associate Director of Project Africa and a member of the Faculty of Instruction of the State University of New York at Buffalo. Sven E. Hammar prepared the summary of a sample of student reactions.

A battery of paper and pencil tests was used to collect information relevant to the third question. Two of these instruments were designed especially for use in this evaluation by Professor Hicks. The others were commercially available standard evaluation instruments. All students in the experimenting classrooms as well as matching control groups in each experimenting school were tested to secure information about their critical thinking skills and knowledge about Africa both before and after using the Project materials. A detailed description of the field test design, the instruments used and the results of this study have been prepared by Dr. Hicks as Part IV of this report.

The pages that follow constitute the complete report of the formal field trials of Project Africa's *Africa South of the Sahara: An Inquiry Program for Grades 7-10*. This report reveals many strenghhs and weaknesses of significance. Although the instructional strategy employed is new to most teachers, it appears to work reasonably well. Some teachers like it and feel comfortable with it. Others do not. Many of the program materials and techniques prove most useful in facilitating learning of both skills and knowledge and in creating considerable student interest and enthusiasm. On the other hand, some materials and techniques do not work well, for a variety of reasons.

It is not the intent here, however, to draw out the implications of this evaluation or to describe ways in which the materials which comprise the program might be improved. This is self-evident in the analyses themselves. This document, rather, should be used as a working paper that must be examined with constant reference to the instructional materials and teaching guides to which it refers. It is a somewhat technical report, one whose sole purpose it is to highlight the program's strengths and weaknesses from a variety of viewpoints--those of scholars, teachers and students--and from the vantage points offered by evaluative data collected by a variety of instruments and procedures.

Project Africa was created to do what most individual school systems with their limited resources cannot do well alone--that is, to design and evaluate new materials and techniques for teaching about Africa south of the Sahara. It has done just this. The Project materials are now available to interested educators to refine further and to adapt to the specific needs, interests and abilities of their own particular students. With local adaptations these materials and techniques can become the core of vital, meaningful programs of study for students of varying abilities and grade levels. The evaluative information contained in this report should be most useful in making these needed revisions or adaptations. The Project's materials may then be well used to improve classroom learning about the peoples, history and cultures of Africa south of the Sahara.

Carnegie-Mellon University
Fall 1969

Barry K. Beyer
Director
Project Africa

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I

A CONTENT EVALUATION BY SELECTED SCHOLARS

William E. Garland, Jr.

The content of the materials which comprise this program of study on Africa south of the Sahara was identified, researched and selected in cooperation with recognized scholars and other specialists. Nevertheless, it was recognized that in the process of translating this content into instructional materials and activities distortions and/or errors of substance might occur. Therefore, four academic specialists on Africa south of the Sahara were asked to examine and critique the materials finally included in the Project's program of study. These scholars were:

Professor Graham W. Irwin
Professor of African History
Columbia University

Professor James Vaughan, Jr.
Chairman, Department of Anthropology
Indiana University

Professor Anthony Kirk-Greene
St. Anthony's College
Oxford University

Professor Burton Witthuhn
Department of Geography
The Ohio State University

Although each of these evaluators was thoroughly familiar with the Project's complete program of study, three of them were asked only to comment on those aspects most closely related to their own fields of specialization--whether they be African history, geography or anthropology. Only one specialist, Professor Witthuhn, examined the complete program. Thus, in most instances, the comments which follow are quite selective.

Introduction

Eventhough it was the primary intent of this aspect of the evaluation to examine the program for substantive weaknesses, the evaluators also made occasional observations about pedagogy and methodology. For purposes of analysis, therefore, their comments may be divided into several categories.

One such category we have described as SUBSTANTIVE. At the most specific level here--the level at which the bulk of the comments fall--each of these scholars brought to bear the essential elements of his discipline. Thus, the geographer's concern for spatial relationships comes to the fore in his comments just as does the historian's conception of change through time and the anthropologist's sensitivity to ethnocentrism. Most comments and suggestions in this category relate to specific content. In some instances errors of fact have been noted and corrected. In others possibly erroneous impressions created by the content have been identified. And in a few other instances extended observations have been made about these and other dimensions of the program content. Where no comments have been made, it may be fairly assumed that the evaluators were in agreement with the content as it was.

In the second category--that designated as METHODOLOGICAL--each scholar applied his expertise with those tools and analytical techniques used by the various disciplines. Categorized here are those comments and suggestions that deal, for example, with the heuristic value of maps and tables, the rules of evidence and other methodological matters related to history, geography, anthropology and other social sciences.

Finally, each evaluator occasionally commented about certain pedagogical aspects of the program materials and techniques suggested in the teaching manuals. In so doing their observations range from questionning techniques to audio-visual aids to reading selections and so on. These comments have been categorized as PEDAGOGICAL.

The comments of each of the evaluators are grouped in these three categories for each of the four major components of this program--Introduction, Topic I, Topic II, Topic III. The names of the primary evaluator(s) for each component are given in parentheses immediately under the title of that component. Page numbers in parentheses refer to those in the public domain copies of the program materials now available from the ERIC Document Reproduction Service.

INTRODUCTION TO AFRICA SOUTH OF THE SAHARA: TEACHERS GUIDE

(Professor Anthony Kirk-Greene
Professor James Vaughan, Jr.
Professor Burton Witthuhn)

Activity One

SUBSTANTIVE

(p. 41, #1-a) It is impossible to determine the location of the African continent with respect to the hemispheres without Prime Meridian. The projection used might invoke a response of "middle hemisphere." (Witthuhn)

(p. 45, par. 1) South America, in addition to Africa, straddles the equator. (Witthuhn)

(p. 45, par. 3) Since the reference is to "continents," we must also include Central America as a part of the North American continent. Thus, North America must be said to contain more than two (2) nations. (Kirk-Greene and Vaughan)

Activity Four

(p. 53) Add, "Students should note...there is relatively less desert south of the Sahara." and "There is a lesser amount of tropical rain forest." (Witthuhn)

SUMMARY

These few comments concerning the introductory unit are a reflection of the generally favorable response which it received from these evaluators. Professor Witthuhn, for example, was especially pleased with the two filmstrips which accompany this unit, remarking that "no teaching aid known to me does a better job of demonstrating climatic regions than does this introductory filmstrip (Climate Regions in Africa)."

TOPIC I: THE PEOPLES OF AFRICA SOUTH OF THE SAHARA

(Professor Anthony Kirk-Greene
Professor James Vaughan, Jr.
Professor Burton Witthuhn)

STUDENT TEXT

Culture Study One

SUBSTANTIVE

(p. 2, par. 2) (The) leather... was carried to Morocco where it became known as Moroccan leather, though it originated in Africa. (Vaughan)

(p.2)	With its emphasis on a disciplined life, this (expository material on the Hausa) could usefully include a paragraph describing the pomp and ceremony (filmstrip, Activity A, frames 25-27) of the emir's procession on feast days. (Also, perhaps, material dealing with a traditional Moslem law court.) (Kirk-Greene)
(p.2, par. 3)	"Shining new concrete bungalows" are not found within the city. (Kirk-Greene)
(p. 2, par. 3)	Add "...employed to warn workmen away from the runways by blowing a silver trumpet when they spot incoming planes." (Kirk-Greene)
(p. 2, par. 7)	There are 12-15 million Hausa, and the lanquage is spoken by 25 million! (Kirk-Greene)
(p. 3, par. 2)	Sorghum is the most important staple. (Vaughan)
(p. 3, par. 2)	Never Yams! (Kirk-Greene)
(p. 3, par. 3)	Add: "Eventually some Fulani settled in the towns and became rulers and merchants..." (Vaughan)
(p. 3, par. 3)	This is very confusing. It was not the nomadic Fulani who became rulers but their sedentary scholars in the royal courts. (Kirk-Greene)
(p. 3, par. 5)	Pilgrimmage is obligatory only on those who can afford it. (Kirk-Greene)
(p. 4, par. 2)	"Parents sometimes arrange..."
(p. 4, par. 2)	Women do not obey their brothers and husbands any more so here than they supposedly do elsewhere. (Kirk-Greene)
(p. 4, par. 5)	Women may also, in addition to these duties, farm womens' crops. (Kirk-Greene)
(p. 4, par. 6)	Re: "And when they do, custom requires them to act very formally." We are cautioned that this is "as it seems to us." (Kirk-Greene)
(p. 4, par. 6)	There is disagreement with the conclusion that "...an average Hausa woman has three or four marriages during her life," at least as it applies today. (Kirk-Greene)

(p. 4, par. 7) Walls for a *Gida* are "only for the very rich." (Kirk-Greene)

(p. 4, par. 7) Re: Guests sleeping in the courtyard with the animals. Nonsense and discourteous! A guest would always have a hut to sleep in! (Kirk-Greene)

(p. 5, par. 8) "Most Hausa, still today, live and think as their fathers and grandfathers before them."--It's not quite this simple! They accept the 20th century (it impinges on them in so many ways) but do not abandon their own way of life to way of life to welcome it. This is a far too static conclusion as it stands, and is not likely to endear itself to any Hausa who can read it. The truth is that the Hausa *is* moving into the 20th century, while holding on as tightly as he can to the life that he knows and respects. (Kirk-Greene)

Culture Study Two

SUBSTANTIVE

(p. 11, par. 6) Add: "Today, most of the *!Kung* continue their..." (Kirk-Greene)

PEDAGOGICAL

(p. 8, par. 3) Do (students) need to know how to pronounce these, especially the !K of the title? (Kirk-Greene)

Culture Study Three

SUBSTANTIVE

(p. 2, par. 1) Add: "Ethiopia, *like so many African nations*, is a nation of..."

PEDAGOGICAL

(p. 14, par. 1) Perhaps a diagram in addition to the expository material dealing with the houses of the Mech'a Galla, will make this passage more meaningful to students. (Vaughan)

(p. 14, par. 3) If they know what this (Sorghum) is, they will probably think of molasses. Explain that the grain is more useful than the stalk. (Vaughan)

Culture Study Four

SUBSTANTIVE

(p. 19, par. 2)	Change "Prime Minister Jomo Kenyatta..." to "President Jomo Kenyatta..." (Witthuhn)
(p. 19, par. 8)	This definition of "Uhuru" (i.e. "hard work") is an inheritance from colonial rule in Kenya. (Kirk-Greene)
(p. 20, par. 1)	Re: "Kanu legislators..." - It is K A N U = the dominant political party. (Kirk-Greene)
(p. 25, par. 6)	This account of the Mau mau uprising is rather biased. Many Kikuyu were slaughtered. (Kirk-Greene)
(p. 26, par. 4)	There is a technical problem here. That is--descent is reckoned only through one sex, in this case males. Thus, one cannot be a member of one's mother's clan (Vaughan)
(p. 27, par. 3)	These events would have been pre-Kikuyu and common to other groups as well. (Vaughan)
(p. 27, par. 4)	Re: use of 'polygamy:' No! Polygyny is the word. Polygamy means more than one spouse. Polyandry (more than one husband) and polygyny (more than one wife) are forms of polygamy. (Vaughan)
(p. 28)	It doesn't seem...(that this reading) really explains how age-grades function. For a perhaps too simple explanation see the introduction to Ottenberg and Ottenberg. (Vaughan)

SUMMARY

The general conclusions were favorable towards the materials as they presently exist. Dr. Witthuhn seemed to reflect the general views of all the evaluators in noting:

> It is obvious that the first three culture studies of Topic I have benefited from field testing and rewriting. I consider them in excellent format. The course activities are interesting, varied, and purposeful. Editing has improved the sequencing of activities and the exercises appear to be within the ability range of a majority of students,

TOPIC I: TEACHERS GUIDE

Introduction

SUBSTANTIVE

(p. i, par. 2) The Bushmen are not typical of a significant number of Africans, numbering only 30-50 thousands. *But*, we "cover" them because they so vividly reveal man's adaptability, creativity--even his persistence. (Vaughan and Kirk-Greene)

(p. i, par. 2) For "tribe" substitute "society." (Vaughan)

(p. ii, par. 3) Society is ordered *but* not *rationally* ordered. (Vaughan)

(Activity Two)

(Study Guide, p. 3) Re: definition of "primitive" - an inhabitant of a nonliterate society. I prefer not to use it as a noun, especially referring to a person and rather use it to describe a society which is by tradition nonliterate or pertaining to such a society. (Vaughan)

Culture Study One

SUBSTANTIVE

(Activity One)

(p. 9, par. 3) There are, rather, *thousands* of words in the original dictionary. (Kirk-Greene)

(Activity Three)

(p. 22, par. 2) Muslimi = title of the most important ruler in Nigeria; 'the commander of the faithful' (Moslems) (Kirk-Greene)

(Activity Four)

(p. 35) Re: Filmstrip. I may be wrong but this is a picture taken in the Mandam Mountains (referring to frame #2) in the Republic de Cameroon--not Hausa country. (Vaughan)

Re: Frames #25 and #27. "Sallah = Religious Feast day." (Kirk-Greene)

PEDAGOGICAL

(Activity One)

(p. 10, #3) One of the most shocking education experiences I can think of vis-a-vis this is to have students note the annual rainfall of Kano (approximately 39") then ask them to get rainfall figures of American cities--(Chicago, 39"!; Colorado Springs, 13"!). Thus they begin to wonder, 'What causes an arid region?' Answer: the distribution of rainfall, not the total amount. (Vaughan)

(Activity Six)

(p. 40, #8) I always hope that an early lesson to the kids is included, asking 'Why are the Americans the way they are?' Otherwise, I find this question has undertones (unintended) of setting-apartness. (Kirk-Greene)

Culture Study Two

SUBSTANTIVE

(Activity Three)

(p. 55, objective #4) This is a good point...but it doesn't fit with the definition I suggested earlier. Perhaps substitute 'simple' or 'backward' instead of "primitive?" (Vaughan)

(Activity Four)

(p. 60, #2-b) The reply under Bushmen--"animist": this is not a very good word, but there are few adequate substitutes. One might simply say "independent religion." (Vaughan)

PEDAGOGICAL

(Introduction)

(p. 43, par. 1) Teachers will have to be informed how to pronounce !Kung and why this value is used in the orthography. Also, it would be an effective teaching aid to include the 'click' on the tape at some point. (Kirk-Greene)

(Activity One)

(p. 48) A typical school question in this context might be: 'Were they amateur or professional artists?' The class should deal with the role of the artist in the tribe. (Kirke-Greene)

(Activity Three)

(p. 56, #4) You often mention their simple technology--ask why it is simple? Answer: Few raw materials, little contact, so few new ideas, etcetera. That too is a consequence of their conditions. (Vaughan)

(p. 57, #10) It might be suggested that the study of the !Kung may have resulted in new features to be added to the culture summary. In fact, students might be encouraged to even go back to the Hausa unit to see if the new features apply. (Witthuhn)

Culture Study Three

SUBSTANTIVE

(Activity One)

(p. 63, #1) Is a glottal stop the same thing as a click? (Vaughan)

PEDAGOGICAL

(Activity One)

(p. 70) The filmstrip-tape script "is, to me, splendid and I should like to have seen the same approach made to pull together all the Hausa material." (Kirk-Greene)

(Activity Three)

(p. 81) Suggests addition to teaching procedure:

ASK: WHAT ARE THE ADVANTAGES OF LIVING IN LARGE INTEGRATED GROUPS?	Maximizes skills Division of labor Products of creativity can be distributed throughout the population

This leads to a contrast between "independent" Mech'a Galla
(Vaughan)

Culture Study Four

SUBSTANTIVE

(Introduction)

(p. 87, par. 1)	Change to "President of Kenya..." (Witthuhn)
(p. 87, par. 1)	The Kikuyu, rather than one of East Africa's major peoples, are one of the most important peoples of East Africa since they are not numerically so significant. (Vaughan)

(Activity One)

(p. 89, A)	Change to "...48 traditional societies..." (Vaughan)
(p. 90, #4-a)	Since all four stations are populated, generalizations about too much, too little, or just enough rainfall are most tenuous. (Witthuhn)
(Kenya Data Sheet)	Re: "...even now, when a most solemn prayer is being made for help, the people turn their faces towards the mountain." Although a quotation, there is a danger here that it might be interpreted as a universal, which it is not. (Witthuhn)
(Kenya Data Sheet)	This is a splendid idea and the maps are first-rate. (Kirk-Greene)

METHODOLOGICAL

(Activity One)

(p. 89, #2)	Asking kids to make a list of the "most significant features" of Kenya and its people is misleading as the data sheet they work from conveys only population data, climographs and a non-universal statement. (Witthuhn)
(p. 90, #4-B)	There is no clue to the assertion that "this nation was once occupied by a colonial power, probably England." (Witthuhn)
(Kenya Data Sheet)	Change title of table on first page to: "Population of the Ten Most Populous Cities" (Witthuhn)
(Kenya Data Sheet)	The information included for the students above the data presented in the population tables should more properly be placed as a "Note" below presentation of the data. (Witthuhn)

PEDAGOGICAL

(Activity One)

(Kenya Data Sheet)	Study guide, p. 2, question #5 does not assist the student in discovering why the Kikuyu may have different occupations from the Mijikenda. (Witthuhn)
(Kenya Data Sheet)	Study guide, p. 2 question #6 change to: WHAT ARE THE OUTSTANDING WAYS KIKUYULAND DIFFERS FROM OTHER AREAS OF THE COUNTRY? (Witthuhn)
(Kenya Data Sheet)	Study guide, p. 2, question #8 change to: LIST THE ADVANTAGES AND DISADVANTAGES OF THE REGION OF THE KIKUYU FOR EARNING A LIVING.

(Activity Two)

(p. 93, Objective #4)	Add "and the Kikuyu in particular." (Witthuhn)
(p. 95, #1)	Add as a possible response, "unemployment." (See Peoples of Africa text) (Kirk-Greene)
(p. 103, #3)	"long isolation" is not a unique characteristic. (Witthuhn)
(p. 104, #4)	"Africanization" needs defining. (Witthuhn)

SUMMARY

The teaching strategies suggested in the teacher's manuals generally met the evaluator's approval. Dr. Witthuhn for example, commented that "the emphasis on inquiry learning is of as great importance as is the dissemination of Africana lore." More specifically, Witthuhn praised the material for the clarity to be found in the guides and remarked that "those who later desire to use only part of the total program should be made aware (by employing these guides) of the activities essential to the development of a cross-cultural viewpoint."

TOPIC II: HISTORY OF AFRICA SOUTH OF THE SAHARA

(Professor Graham W. Irwin)

STUDENT MATERIALS

SUBSTANTIVE

Unit One

(p. 1, par. 1) Only Rhodesian government tourist pamphlets refer to the Phoenicians. It would be better to say "Experts *used to claim* that..." since no reputable expert believes this today. It is also important to note that Zimbabwe may have been *one* of the capitals of Monomotapa.

(p. 1, par. 2) Monomotapa = Mwene Mtapa = "Master Pillager;" not really "king" as asserted in this paragraph.

(General) Professor Irwin feels that the historiographic evidence presented to the student with regard to the Mystery of Zimbabwe misrepresents the *present* state of opinion within the historical profession on this matter,. Thus, as a matter of professional concern, Irwin suggest that the teacher include an additional reading reflecting more up-to-date opinion. As he points out:

> I am not too happy about this unit. I see the point that students will be able to discard the Brewer hypothesis when they think about it. But is the Roger Summers abstract *strong* enough? Perhaps one should add another abstract supporting it? (e.g. from Desmond Clark's *Prehistory of Southern Africa*)

Unit Two

SUBSTANTIVE

(Part One)

(p. 5, par. 3) There is no evidence that Monomotapa existed in 1,000 A.D. Indeed, the word was not used until the 16th century. It would thus be better to say "home of the king."

(p. 5, par. 4)	Add: "By the 16th century the ores from these mines--especially gold--were the chief source of wealth for the neighboring Monomotapa Kingdom. These were carried..."
(p. 6, par. 1)	Once again employment of "monomotapa" in the context of "late 1400's" is questionable. The word "monomotapa" comes into use after the move away from Zimbabwe. The beginning to this paragraph needs some re-wording.
(p. 9, par. 3)	The assertion that "...the peoples...were completely dominated by a certain ruler, the Ghana..." suggests that the Ghana was autocratic, which he was not, even if he was considered 'divine.'
(p. 9, par. 4)	Ghana dominated the upper basin of the Niger river.
(p. 9, par. 5)	Asserting that "Gold traded through Ghana was used throughout Europe until the discovery of the Americas..." is misleading. Ghana, after all, had long since ceased to exist before 1492.
(p. 10, par. 3)	For the sake of historical accuracy it would be better to say "...contributed greatly to the support of the scholars at Timbuktu and other centers of learning." The 14th century of course, is a bit too early to be speaking of a "University."
(p. 11, par. 5)	It is more accurate to refer here to the "Central Sudan," since it is not really central Africa you are speaking of (referring to Zambia, Malawi, or Rhodesia). Also change "Chad basin" to "Chad region."
(p. 11, par. 5)	Bornu was not a city, it was a state. It had many capitals. As described here, this city probably refers to a place called "Birningazargamu."
(p. 12, par. 1)	Add: "In the 17th century this Kanem-Bornu empire had..." Delete: "Its Kings had even imported Turkish military instructors and guns and cannons by the nineteenth century." Oddly enough, the use of firearms had died out by the nine-teenth century.
(p. 12, par. 2)	Add: "For a time after 1512 there was a Portuguese advisor..."
(p. 12, par. 2)	Was the source of money Kauri shells?
(p. 12, par. 3)	Add: "Two types of states existed in Eastern and Central Africa."
(p. 12, par. 4)	Change: "...from Somalia and Mozambique" to "...from Madagascar..."

(p. 12, par. 5)	Change: "...--including Persians, Malays, Indians" to "...--including Persians, Indonesians, Indians,..."
(p. 12, par. 6)	Change: "...on the coast of present-day Tanzania." to "...off the coast of present-day Tanzania."
(p. 13, par. 1)	Add: "A great deal of the Zanj trade was with India, and indirectly with China."
(p. 13, par. 2)	Change: "...into the hands of various Arab Sultans..." to "...into the hands of various Arab and Swahili rulers..."

(Part Two)

SUBSTANTIVE

(p. 14, par. 1)	It would be preferred to use "detailed" when referring to his description as we can't really say that he was "accurate" since, up to now, we have few ways, apart from archaeology, of checking him.
(p. 14, par. 2)	The introductory remarks regarding Abdul Hasan Ali al-Mas'udi are misleading. They seem to imply that he was an eyewitness of "the silent trade." He was not.
(p. 14, par. 3)	Add: "...one of the few parts of the Muslim world he had not seen." He did not, for example, go to Persia or Afghanistan.
(p. 15, par. 2)	The introductory paragraph seems to imply that El Muhallabi visited Kanem when apparently he did not. Also, there was no Bornu in 985 A.D. Kanem will have to be used.
(p. 16, par. 1)	Add: "Benin at the Delta of the Niger was a very famous forest Kingdom that increased in importance after the Europeans began to trade with it."
(p. 17, par. 1)	The only direct Chinese contacts with Africa are the Ming voyages. We cannot say, therefore, that they traded with East Africa.

Unit Three

(Part One)

SUBSTANTIVE

(p. 18, par. 4)	The description of slavery employed here seems too strong. You are describing *chattel* slavery, but on the next page (p. 19) you make clear that in many systems the slave had rights. "To serve him in any way he, the owner, wished" does not apply to most African systems of slavery. For example, rarely could a slave be sold outside his county in a state like Dahomey.
(p. 19, par. 4)	The assertion that "...only a very few people were slaves.." creates the wrong impression. An empire like Mali was *built* on slavery.
(p. 19, par. 4)	There is *no* evidence that "...wars and other group conflicts were few and far between." There were plenty of wars. The point which explains the scarcity of slaves is that after the coming of firearms, wars became almost infinitely more destructive of life.
(pp. 20-21, pars. 5/1)	The Spanish kings did not themselves trade slaves. The licenses ("asientos") got into the hands of the Portuguese Flemings, agents of German bankers, etc., because of the impoverishment of Spanish court favorites to whom the licenses were originally granted. They sold the privilege to trade for ready cash. I think the main point to get across is that, almost from the beginning, the Atlantic slave trade was *not centralized*--hence not rationalized and, essentially, uncontrollable.
(p. 21, par. 1)	Add the following sentence: "By the mid-18th century, the Atlantic slave trade was the largest single trade in the world."
(p. 21, parl 2)	The Dutch were not active in the slave trade after 1808. Should also add the Brazilians to this list.
(p. 21, par. 3)	The reader might get the impression from the wording employed here that it was the *slaves* who were called "coffles."
(p. 24, par. 2)	The "king" of Brazil was really an emperor, and about to abdicate. It would be better to leave this out.

(p. 25, par. 2)	Insofar as this was true, the depopulation and devastation was caused by the Nguni invasions from the south. We must not imply that the Arabs depopulated East Africa alone, though they certainly helped.

(Part Two)

SUBSTANTIVE

(p. 29, par. 1)	"Manikongo = King of Congo."
(p. 34, par. 2)	Add: "Whether these effects were, on balance, good or bad..."

Unit Four

(Part One)

SUBSTANTIVE

(p. 35, par. 2)	Information included here as to the influence of the Portuguese in Africa at this time is misleading. Such penetration, by Europeans, as there was in Africa south of the Sahara was by the Portuguese--up the Cuanza in Angola or up the Zambesi in Mozambique. Deemphasize Portuguese Guinea--it was not important then any more than it is important now.
(p. 36, par. 1)	Re: Quote from Kipling. It is always difficult to use Kipling. This particular piece is dated 1898, and is an appeal to the United States at the time of the Spanish-American war. One could say: "...as Rudyard Kipling later wrote."
(p. 36, par. 3)	Must not use "chartered." The chartered companies--Royal Niger, South Africa Imperial East Africa, German East Africa--were all well after Barth, Speke, Burton, Livingstone, etcetera.
(p. 38, par. 3)	It was Portugal, not Leopold, who first suggested an international conference, and Bismarck who summoned one to Berlin. Leopold was not, in fact, legally represented there.
(p. 38, par. 5)	The Lord Lugard did not bring the Yoruba under British rule.

(p. 38, par. 5)	Spelling error: "Djibuti" rather than "Ojibuti."
(p. 39, par. 3)	The emphasis here is wrong. You imply that mostly the Africans accepted European rule. This is not true. The primary resistance was often slight, but the secondary resistance was heavy. For example, in Rhodesia the pioneers came in peace, but within six years there were serious rebellions in both Matabeleland and Mashonaland.
(p. 40, par. 2)	The statement asserting that "...it was not until 1927 that the inhabitants of French territories in central Africa ever saw a Frenchman." is to sweeping. Some interior areas, e.g. Chad, did not see a Frenchman, but this statement, as it stands, is much too sweeping.
(p. 40, par. 3)	South Africa is an exception to this generalization. (Witthuhn)
(p. 40, par. 5)	Is the policy of the British stated here a Gold Coast regulation? If so, it should be stated as such here.
(p. 41, par. 2)	Assimilation was a policy of the French only until ca. 1900.
(p. 41, par 2)	Rather than "Nous Péres les Gaulios (Our fathers, the Gauls)" it is usually written "Nos Ancêtres les Gaulios (Our ancestors, the Gauls)."
(p. 41, par. 2)	Elections to France's National Assembly occurred only in Senegal.
(p. 41, par. 3)	The point must be made that extremely few Africans' in the Portuguese territories in fact became assimilated.

PEDAGOGICAL

(p. 38, par. 3)	The abstract taken from Article XXXIV of the Act of Berlin is to brief--as a result it does not make too much sense.

(Part Two)

SUBSTANTIVE

(p. 47, par. 1)	In introduction change: "The following selections refer to Uganda." to "The following selections refer to Kenya." This is more consistent in view of today's boundaries. (Witthuhn)

(p. 47)	This essay contains subjective bias to a greater extent than do many of the other selections. (Witthuhn)

METHODOLOGICAL

(p. 46, chart)	Tabular data such as this, does *not* lend itself to the solution of the exercise (IV-3) in the study guide. (Witthuhn)

Unit Five

(Part One)

SUBSTANTIVE

(p. 53, par. 4)	The Union of South Africa did not become a self-governing British Dominion *within the Commonwealth of Nations* because there was no "commonwealth" until after the statute of Westminister in 1931.
(p. 53, par. 7)	Nkrumah cannot be said to have "*tapped* a two-step with the Duchess of Kent." "Danced" would be a better choice of words since Nkrumah was no tap-dancer. (With tongue in cheek)
(p. 57, par. 1)	Change: "...its new name--the French *Territory* of the *Afar* and *Issa*."

(Part Two)

METHODOLOGICAL

(p. 60, Diagram)	This diagram does not very convincingly present two sets of data. Two separate tables would do a much more effective job. (Witthuhn)

(Part Four)

SUBSTANTIVE

(p. 71)	General comment: An excellent essay! (Witthuhn)

(p. 74, par. 3) Nkrumah did not come back to lead the United Gold Coast Convention party in its move for self government.

SUMMARY

It was the general view of the scholars who examined this topic that:

> given the quality of the materials assembled in Topic II it is difficult to isolate a "best" category. Nevertheless, the Zimbabwe unit, the tape script on the exploration of Africa (pages 75-81), and the excellent concluding unit are particularly impressive. The essay on the roots of African Independence is also exceptional. Obviously, much material of considerable merit is excluded in the above judgment.

TOPIC II: TEACHERS GUIDE

Introduction

SUBSTANTIVE

(p. ii, par. 3) Add: "Rather, Africa today, its peoples and cultures are as much a product of contact and interchange with outside forces and with one another as of independent invention..." (Irwin)

Unit One

SUBSTANTIVE

(Activity Four)

(p. 19, par. 3) Perhaps one should delete the reference to "the Mongoloid peoples of Southeast Asia." Then one will not have to go into the question of the Yellow River pre-historic sites (China) as against the Red River sites (Tongking) etcetera. (Irwin)

(p. 20, par. 2) But is there evidence that the fiber was used (as opposed to the oil)? Murdock says not, I believe, and most writers assume that the growth of cotton cloth industries in West Africa reflected the (much later) spread of Islam. (Irwin)

METHODOLOGICAL

(Activity Two)

(Study Guide, p. 10) Given the data on the preceding page, question #3 is unanswerable. (Witthuhn)

PEDAGOGICAL

(Activity One)

(p. 3, Objective #6) Add: "To initiate the desire to investigate Africa's past more fully." (Witthuhn)

Unit Three

PEDAGOGICAL

(Activity Two)

(p. 57, #6-a) It would make it plainer to the teacher employing this lesson plan if the hypothesis were included here . (Witthuhn)

(Activity Three)

(p. 61, #7) Include statement of hypothesis in teacher lesson plan. (Witthuhn)

Unit Three

PEDAGOGICAL

(Activity Four)

(p. 64, #3) Having students refer to the resource map (#8) and thus explaining large concentrations in West Africa after they have presumably hypothesized depopulation as one of the impacts of slavery on Africa will make a good point. However, without some justifications in the guidelines, I feel that the discussion may be without meaning. (Witthuhn)

Unit Four

SUBSTANTIVE

(Activity One)

(p. 79, par. 2)	Lake Victoria is a long way from Murchison Falls. (Witthuhn)

PEDAGOGICAL

(Activity One)

(p. 72, #2-c)	Add: "Europeans may have discovered new information between the drawing of the maps." (Witthuhn)

(Activity Two)

(p. 85, #3-a)	Ask (instead): "HOW WAS AFRICA DIVIDED JUST THIRTY YEARS AGO?" (Witthuhn)
(p. 85, #3-a)	Ask (instead): "WAS AFRICA DIVIDED DIFFERENTLY ABOUT FIFTY YEARS AGO?" (Witthuhn)
(p. 85, #3-a)	Ask (instead): "WHAT EUROPEAN INFLUENCE WAS PRESENT IN 1825?"
(p. 87)	General comment on group assignment: Eventhough the assignment is divided into thirds, it demands much more of students than do earlier lessons. Different interpretative skills are required as well, for some groups have tabular and graphic material to analyze while others do not. While I agree with the intent of this lesson, I question whether the aims are a bit ambitious. (Witthuhn)

(Activity Four)

(p. 92, #4)	While I agree that the students will perceive that Africans view colonization with an unfavorable bias, their conclusions may be based on an incomplete sample. (Witthuhn)
(p. 92, #5)	d'Andrade's comments make an important point. (Witthuhn)

Unit Five

SUBSTANTIVE

(Activity One)

(p. 97, #1)	The Sudan is not north of the Sahara as here implied. (Witthuhn)
(p. 97, #2)	Ghana was British? (Witthuhn)
(p. 98, #6)	With regard to the reading, "African Independence," there is too much emphasis on military enlistments. Something is needed on the example of Ghana, the financial woes of the European powers, the role of the cooperatives, et. al. (Witthuhn)

PEDAGOGICAL

(African Independence Study Guide)	The indentification of literary materials by type seems to me to be wasted effort! It would seem more appropriate to identify the principal theme directly. (Witthuhn)

SUMMARY

Both Professors Irwin and Witthuhn approved the teaching suggestions in this Topic. Interspersed throughout their commentaries were notes such as "Good and "This exercise should evoke considerable interest." Professor Witthuhn was especially taken with the "structure" of the teaching suggestions as a whole.

TOPIC III: CHANGING AFRICA

SOUTH OF THE SAHARA

(Professor James Vaughan, Jr.
Professor Burton Witthuhn)

STUDENT TEXT

Unit One

SUBSTANTIVE

(General)	For crisis aspects of the situation discussed in this topic, see Wulf Sachs, *Black Hamlet* (paperback). It's very good. (Vaughan)

(p. 2, par. 3)	Notice the expression used here..."unaccustomed to village life." Obviously, some Africans are urban by tradition. (Vaughan)

Unit Two

SUBSTANTIVE

(p. 10, par. 1)	It would be preferable to say that sometimes they have to walk far to their fields--at least far by American standards. (Vaughan)
(p. 12, par. 1)	The employment of the expression "like moths to a flame" is distasteful as applied here. (Vaughan)

PEDAGOGICAL

(p. 10)	General comment re: Life in an African Village. This is alright, but it fails by virtue of trying to generalize too broadly. As you have pointed out in Topic I, it is impossible to describe an African--the same is true of villages. Why not take one village and describe it? It should be easy if you want no more than a couple of pages. (Vaughan)
(p. 15)	General comment: I find no objection to including these, though I think something should be said about the relative support of the two arguments. Surely only a few Africans would support speaker A. I take it the emphasis here is that industrialization is a mixed blessing? (Vaughan)

Unit Three

SUBSTANTIVE

(p. 19, par. 1)	I don't know where these figures cited in this reading came from. I would think that there are, rather, hundreds of languages in Nigeria. Perhaps what is meant here are language families or sub-families?
(p. 19, par. 4)	Perhaps it might be well to indicate that the excerpt from Kenyatta's book documents the education only of those Kikuyu of preschool age or those who have not had the experience of former mission school education. (Witthuhn)

PEDAGOGICAL

(pp. 20-21) Sadly, these readings document everyday occurrences in our own schools. Students may recognize the similarity to their own experiences and think their own education irrelevant. (Witthuhn)

Unit Four

SUBSTANTIVE

(p. 25) This selection does not emphasize the impact of urban life so much as it does transportation facilities (roads, streets, ports). (Witthuhn)

METHIODOLOGICAL

(pp. 28-29) Either the source or the title should indicate the year. In addition, each table should have cited below the data presentation its source. (Witthuhn)

PEDAGOGICAL

(p. 28) Insert the United States equivalent to the educational level "Standard VI," where it appears in this reading. (Witthuhn)

SUMMARY

Very few comments were made by our critics concerning the materials included in Topic III's student manual. On the whole, they appeared to reflect a favorable view, as with Dr. Vaughan's reflection that the advertisement materials included in unit one were especially "good." The bulk of their critique fell on the teaching strategies and logic of Topic III which are included in the final section of the critique below.

TOPIC III: TEACHERS GUIDE

Introduction

SUBSTANTIVE

(p. i, par. 1) Add: "...is to investigate the primary forces..." I think this is an important qualification, because we are largely concerned with the forces of modernization, not, for example with social evolution. (Vaughan)

PEDAGOGICAL

(p. i, Specific Objective #2) It may be more accurate to say: "...requires the acquisition of money," but I think I prefer "...requires involvement in a large-scale money economy." After all, many of them are, and have been, in traditional money economies. But the significant difference is that the "modernizing" economy is of international scope. (Vaughan)

(p.ii, Specific Objective #10) This appears to refer to enviromental determinism as stated. Would prefer the addition of "social" to qualify the "determinism" intended. (Vaughan)

(General) In general, I find the tone of this too dramatic--too unaware of the *African* tradition of urbanism (Hausa, et. al.). Not that it is the same tradition as that of the West, but that tradition makes urbanization in Africa different from urbanization in other parts of the world. Avoid the "census approach" to urbanization. Have a look at Kenneth Little, *West African Urbanization: A Study of Voluntary Associations in Social Change* (London, England: Cambridge University Press, 1965). (Vaughan)

Unit One

SUBSTANTIVE

(Activity One)

(General) Where used in the activity, replace "types of change" with "areas of change," since different types of change suggest a much more profound difference than is justifiable here. (Vaughan)

(Activity Two)

(p. 6, #5) Add: "They need freedom; they need opportunity." (Vaughan)

Unit Two

SUBSTANTIVE

(Activity Two)

(p. 13, #2)	The generation gap is greater here, but it is institutionalized and hence normal in the African setting. (Vaughan)

(Activity Five)

(General)	It is important to point out that the arguments associated with "A" are meaningful only where Africa has not been touched by alien influences--obviously a non-existant area! (Witthuhn)

METHODOLOGICAL

(Activity Four)

(Study Guide)	Without additional instruments, I believe that the students will have difficulty with this activity. (Witthuhn)

PEDAGOGICAL

(Activity One)

(p. 9, #1)	The filmstrip and the associated exercise in this activity are weak. Although students should have developed some skills in observation, induction, and making conclusions, the filmstrip does not make clear changing patterns of work. Comparisons are not emphasized as they should be. The film also includes frames (1, 11, 14, 16) which are only weakly linked to changing patterns of work. (Witthuhn)
(p. 11)	Frame #18, taken in Durban, South Africa, is that of a Black "Domestic"--is it wise to show this without some comment? (Vaughan)

(Activity Four)

(Study Guide)	Most of these situations are related to lesson #2, not #4. (Witthuhn)

Unit Three

SUBSTANTIVE

(Activity One)

(Study Guide) "Annual output" would be preferred over "income" as income does not equal annual output. (Witthuhn)

(Activity Two)

(p. 26, #5) The role of the French Catholic Missionaries cannot be ignored when discussing the Uganda school stystem. (Witthuhn)

(Activity Five)

(p. 35, #4) The response suggested to accompany this question may be true, but I object to the statement without further comment. After all, Sengor has succeeded as poet and philiospher. (Vaughan)

PEDAGOGICAL

(Activity One)

(Study Guide) Question #4. Give students the following hint: Between 1940 and 1950 the rate doubled. (Witthuhn)

Teachers will need an answer guide for this activity. (Witthuhn)

(Activity Five)

(p. 35, #5) Some student may point out that Obi is a fictional character whereas Mboya is not, thus making the perceived differences more clearcut than they are. (Witthuhn)

(Unit Four)

SUBSTANTIVE

(Activity One)

(General) My earlier comment about Little's book is again relevant. Urbanization--in West Africa--is not entirely a new process, nor quite as upsetting as this topic seems to imply. (Vaughan)

(Activity Two)

(Study Guide, Question #2)	Why would one travel between the airport and the Mosques unless one was a foreign visitor? (Witthuhn)
(Study Guide, Question #9)	This is a loaded question! Typically, cities of the future, be they in Africa or elsewhere, will have to provide for specialized functions including administration, marketing, recreation, social welfare, and housing. Consequently, to ask which part is more typical is meaningless since the east side of the river is spatially a residential suburb. It is true that the ethnic composition of a suburb may change, but that is a much different question than the one posed. (Witthuhn)
(p. 41, #2)	Experience would show that prevailing winds often make the opposite condition more likely. (Witthuhn)
(p. 41, #2)	If Mosques are important to the Yoruba, students may feel the 5% Hausa have a distinct cultural advantage. (Witthuhn)
(p. 42, #3)	"Convenience" is not demonstrated as no indication is made of residence, transport availability, costs, one way streets, etcetera. (Witthuhn)
	"Straight streets"--A rectangular grid is not the most efficient. (Witthuhn)
	"...different kinds of people." Difference is not usually an advantage. (Witthuhn)
(p. 43, #1)	With regard to the expected response: "No family to help with household tasks" it is remarked that there is some danger here in being too simplistic. (Witthuhn)

(Activity Three)

(General)	With regard to the student reading, "Voluntary Associations in West African cities:" This is good--now these make the transition from rural to urban dweller easier. This is an important point. (Vaughan)

PEDAGOGICAL

(Activity Two)

(p. 40)	The filmstrip could be broadened somewhat to include additional dimensions such as health (a hospital like Mulago), tourism, transportation, rest facilities, petrol stations, et.al. (Witthuhn)
(General)	Re: Study guide. Answers for the teacher are necessary here. (Witthuhn)

(Activity Four)

(Study Guide)	Teacher needs an answer guide here also. (Witthuhn)

SUMMARY

Largely, it is felt, because of the difficulty of writing a unit dealing with "change" in Africa (or anywhere, for that matter), the evaluators reserved their most critical comments for the materials to be found (and not to be found) in Topic III. Professor Witthuhn felt that this Topic, of the three included in the package, was the weakest. His extended remarks more fully explaining his position on this point appear below:

> Unlike the previous topics, (Topic III), needs some type of culminating unit emphasizing the importance, prevailing nature, and significance of change in Africa today. Perhaps students might be encouraged to dramatize or write impressionistic essays about the impact of change in Africa. Topics focusing on first impressions of city life, loneliness of urban dwelling, confusion introduced by education, or contrasts in urban/rural life might be appropriate for students to work with.

Another possibility for a concluding unit might be to have students write appropriate captions for use with a filmstrip which they have not used previously focusing on change. In fact, Topic III readily lends itself to an examination of markets, agricultural activities, and transportation.

II

TEACHER EVALUATIONS AND REACTIONS

Sven E. Hammar

Eighteen teachers of secondary school social studies tried this program of study in their classrooms. Each of these teachers taught it to one regularly scheduled class during the Spring 1969 semester. In each instance these classes were those in which the students would normally have studied content about Africa south of the Sahara in their own particular schools, and the students themselves were those classified as average by their own schools. Four of these classes consisted of seventh-graders, seven were at the ninth grade level, five were tenth graders and two were some combination of sophomores and juniors.

The schools in which these classes were conducted were scattered throughout the United States. Four were in the Far West, four in the Midwest, three in the South and seven in the Northeast. Of the total number, three may be classified as rural and seven as suburban. Five schools were located in urban areas and three others were ghetto schools.

The experimenting teachers varied greatly in their content preparation on Africa as well as in their normal teaching styles and experience. All but three were described as innovative teachers by their supervisors. Ten had spent only three or less years teaching a course which included anything on Africa while seven had been teaching such a course from four to six years and one for ten years. Four had participated in short summer or in-service institutes on Africa while seven had taken from three to twelve credit hours of college or university courses on Africa. Three of these same seven had also spent some time living or traveling in Africa. Most, however, had never had any formal preparation on or study about Africa south of the Sahara. Furthermore, none indicated any special preparation on inquiry teaching.

Since the intent of the try-out was to determine the effectiveness of these materials when used by teachers uninstructed in their use, no special training in the use of the program materials was provided. The only aid given these experimenters was in the form of the teachers' guides which contained the content and methodological rationales for the program, detailed daily lesson plans, and some explanatory information. The teachers were instructed to teach the program as directed in these guides making as few deviations from them as possible.

Four other teachers also experimented with these materials. They were experienced social studies teachers who had developed or were even then engaged in developing some materials for Project Africa. All had engaged previously in some formal study and/or work in Africa and in inquiry-teaching. One used this experimental program in a class of advanced seventh graders; another in a class of seventh graders classified as "slow learners," another in a class of advanced eighth graders; and the fourth in a class of freshmen and sophomores.

Two methods were used to obtain the teacher evaluations of and reactions to the program materials. First, each teacher was requested to make daily notes of whatever problems, errors, significant pupil reactions or especially successful aspects they noted in each daily learning activity or piece of learning material. These were written in appropriate places in the teaching guides which were later returned to the Project for analysis.

Each teacher also completed an open-ended reactionnaire and evaluation form at the conclusion of each major subdivision of the program--Introduction, Topic I, Topic II and Topic III.* These forms asked the teachers to:

1) Note what they liked least and most about the Topic.

2) Comment on the format, of the daily lessons, the objectives for each, key suggested questions, the background information provided and the general structure of the lesson.

3) Indicate the strengths, and weaknesses of each piece of learning material used in the Topic and suggest improvements where needed.

4) Note--with reasons--those techniques that seemed most useful and those that seemed least useful.

5) Make any additional comments, suggestions or criticism about any aspect of the particular materials, guides, structure, etc.

Analysis of the responses to these questions did not reveal any significant pattern by region, type of school, grade level or degree of teacher preparation or experience. Rather, the comments seemed to fall into general categories of approval or criticism according to the particular learning materials and the ways in which they were to be used according to the teaching guides. The summary which follows, therefore, presents for each major subdivision of the program the general evaluations followed by comments on those materials found by the experimenting teachers to be either outstandingly successful or, conversely, that posed instructional difficulties.

INTRODUCTION TO AFRICA SOUTH OF THE SAHARA

I. General Reactions The most frequent complaint about this Topic (mentioned by seven teachers) was that more time was needed. "I had to rush on several lessons..." was a typical response. Activities Two and Four were specifically mentioned as too time-consuming. One teacher thought that a lack of student familiarity with map skills was the cause of this difficulty. Two teachers noted that additional time was needed to set up A-V equipment and distribute materials.

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* See Appendix B for model of this reactionnaire.

A second type of complaint dealt with student-learning difficulties. Three teachers said that their students had difficulty with the climate filmstrip and two noted difficulties with the climate segment of Activity Two. An opposite criticism--that the activities were "too simple and prolonged"--was submitted by a teacher of an eleventh grade "high ability" class. One teacher said that she liked least, "...the method (which) takes a lot of control away from the teacher."

However, virtually every teacher commented favorably on some phase of the suggested teaching strategy. Only three teachers limited their responses to considerations of content. Teachers liked such features as "the step-by-step questions and the hints about not telling the students too much...!" and "Activity Three...provided (the) best lesson identifying problems, developing hypotheses, etc." Three teachers singled out the variety of materials as the feature they liked most about this Topic, and seven made reference to the maps or map activity in their comments.

Favorable student response, both general and related to specific activities, was mentioned by seven teachers. One teacher noted that, "At this point in the study, the students appear to be very excited about it. The period passes quickly for them."

II. Teaching Guide All experimenting teachers agreed that the format of the guide was useful, but some did suggest several changes. Their responses, when combined with selected responses to the preceding question, "What did you like least about this TOPIC?" reflect an initial malaise on the part of some teachers who apparently were confronted for the first time with inquiry-oriented curriculum materials. "I wasn't sure whether I should do certain things," commented one teacher, adding "When in doubt--I didn't." Elsewhere in the evaluation, this teacher requested "more guidance" (with the study guides), which suggests that this type of teacher would like to have more detailed instructions in the Teaching Guide.

Four teachers preferred "more flexibility" (presumably fewer directions) in the Teaching Guide. Two of this group requested more information for the teacher. Three teachers suggested that more information for the teacher should be included.

Other teacher responses referred to purely mechanical problems. Three requested more time for the activities (suggesting that the climate activities be stretched an additional day), two wanted vocabularies, and one teacher suggested that the approximate time duration for each activity be listed.

Five teachers made specific comments in the Teaching Guide about objectives. One teacher stated that there were too many objectives in Activities One and Three, and another teacher said that more time was needed to reach the objectives for Activity Three. Three teachers were critical of the language of the objectives:

> The verbs, "to be able," "to be familiar with" are unnecessarily vague.

The term "visual data" (Activity One, #4) is not specific enough.

The "specific features" (Activity Two, #1) of the knowledge objectives are not specified.

"Rainfall and temperature" (Activity Three, #1), notes one teacher, "don't affect climate. They are major aspects of it."

All teachers felt that the background information in the Teaching Guide was adequate. However, fourteen teachers suggested various improvements. The overwhelming opinion of this group was that the teacher should have "more information on Africa" and answers for the study guides. One teacher wanted more examples of "meaningful responses" to the questions and two wanted captions for the filmstrips. Three teachers felt a need for a pronunciation key and a glossary of terms. These suggest that some teachers at this point viewed themselves in the experimental situation as expositors of knowledge. One teacher seemed quite sensitive to the different role required of her in the inquiry-oriented classroom. "The more information I have as a teacher and a person, the more I desire to turn my students into experts. Perhaps you are better off, project-wise, not to add more material."

The majority of teachers seemed to feel that the key questions were explicit enough to evoke the desired responses. Four indicated that the questions "usually" evoked the desired response, and one teacher noted that "...sometimes rephrasing is necessary." Three teachers made comments in the Teaching Guide: "Reword Activity One, question one (a & B); in Activity Two, question three, ask: What is topography?; for Activity Three, question four, have the students list climate types for future use." Additional specific questions were requested for Activity Four; noting that students had trouble with questions two and three. One seventh grade teacher found the key questions inadequate adding that "The expected responses are beyond the ability level of these students."

Finally, two teachers suggested substantive changes in the arrangement of activities and strategies. It was suggested that the filmstrip, Africa South of the Sahara #2, and question #1, Activity Three, be eliminated. Another teacher wanted Activities Two and Four to follow more closely, "...with the filmstrip (Climate Regions of Africa) coming as a culminating activity."

III. Learning Materials Ten teachers singled out the Study Guide, Activity Four, as being too difficult. Questions four, five a and five b, nine and ten were specifically identified as causing student difficulty. Seven teachers found that questions four, Study Guide--Activity Two, was too difficult for their students. Eight teachers indicated that they had problems with the filmstrip Climate Regions of Africa. Their feelings were that, "the climate regions are not too distinct" and "the activity is too prolonged."

Judging from the teacher responses, Resource Maps 1-10 were outstandingly successful. "Excellent" was the most frequently used adjective, and the only noted weakness was that some of the maps didn't exactly overlap.

IV. Learning Activities Every teacher noted enthusiastic student reception of the activity involving student pairing to work with maps. The most frequently-offered explanations for this favorable reaction mentioned in one form or another the need of students for security in the classroom: "Students liked being able to check one another," and "The students found security in working with others." Other factors mentioned were friendships, chance for self-expression, a "relaxed" class, and that "some students enjoyed being the searcher."

However, one teacher noted that while her students enjoyed the activity, it was "for the wrong reasons." She thought that the weaker students found it a good opportunity to copy from the stronger. Where problems arose, it was usually noted that they were caused either by a "shortage of time" or by "the academic background of the students." The most negative response stated that "...most of these students have been used to more guidance."

V. Additional Comments One evaluator, whose reaction to the introductory topic was generally critical, offered the following comments:

"I mentioned the fact that in the initial lessons the slower students were very impressed. They felt they had learned a lot with a minimum of effort. The "better" student, seemed bored but, also, they did a poor job with Activity Four, especially. As I noted somewhere else in Activity Four only seven out of twenty-one did an adequate job. The types of children who succeeded proved interesting. I checked their folders and found this:

Student #1 - has a high IQ but has been doing only "C" work.

Student #2 - has ability but has been one step away from failure all year--rarely contributes to class discussions.

Student #3 - an "average" student who makes a great effort but is very unsure of himself--he stays after class every day to tell me how much he likes this study.

Student #4 - failed social studies last quarter--almost failed the first quarter. Will do nothing which involves much reading or writing although he does not have any marked reading problem. He did a superb job on this--has contributed a geat deal in class recently--I have never been sure what he could do.

Student #5 - good student--does a lot of work but doesn't always think things through--he did an adequate job on Activity #4.

Student #6 - failed social studies in first and second quarters--passed in almost no work. Seemed to definitely understand Activity Four."

Student #7 - good student but won't think for herself--did an adequate job on Activity Four."

TOPIC I - PEOPLES OF AFRICA

I. General Reaction The most frequently-mentioned adjective here was "repetitious," and it was applied to the filmstrips, the activities in Culture Study Three and the "Listing of characteristics on the board." The concensus of the evaluators seems to be that this Topic is too long, that "Students began to lose interest by the time the last culture group was studied," and "Students are beginning to 'see through' the method and their responses tend to be superficial." The Conclusion and Culture Study III (on the Mech'a Galla) were singled out as too time-consuming and rating comparatively low in student interest.

The problem of not enough time for each activity--most frequently mentioned by the evaluators of the Introduction--was mentioned only twice, which suggests that both students and teachers were learning to pace themselves.

On the other hand, the feature that the evaluators liked most about this Topic was its variety of activities and materials. The favorite activity seemed to be the tape of the Hausa folk tales and the song Two Frogs, though the Hausa dictionary, maps, charts, Bushman paintings and study guides were also mentioned. The elements of student involvement and the "emphasis on self-learning" in conjuction with the variety of materials were singled out as particularly good.

II. Teaching Guide All evaluators agreed that the format was useful. Suggested changes included "straight lectures at strategic points," additional information on the filmstrips for the teacher, "more planning for individual differences" and time for the distribution of materials. One evaluator noted that Question two, Activity Two in the Conclusion should be revised. "It would take three days to teach this lesson," noted the evaluator, adding "I took two..." Several evaluators made similar observations about the activities in the Conclusion.

Only two evaluators commented on objectives in the Teaching Guide. In the opinion of these evaluators, the following objectives were not met: Culture Study II, Activity Three, Objective Four; Culture Study IV, Activity Five, Objective Two; Conclusion, Activity One, Objective Two; Conclusion, Activity Three, Objective Seven.

In addition, one of these evaluators noted that there were too many objectives (for the time allowed) in Culture Study II, Activity Three; Culture Study III, Activity Four; and the Conclusion, Activity One. The two evaluators agreed independently that the objectives in Culture Study II, Activity Three and the Conclusion, Activity One, presented problems.

Thirteen evaluators felt the need for more teacher information, though all but one felt that the information provided in the Teaching Guide was "generally adequate." The information requested included additional background on filmstrips, a pronunciation key, more information on the Kikuyu (2), an explanation of how the K'allu of the Mecha Galla gets his position, and a proverb bibliography. One evaluator wanted more maps "with place names, for drill," and another, who had spent time in Ethiopia, wanted more information of this country. One evaluator, voicing perhaps the feelings of other teachers using inquiry methods for the first time, complained, "I feel insecure--afraid that something is missing or that I am not seeing certain points." The problem was stated in a different way by another evaluator who saw it as a paradox: "We are supposedly not to tell our students anything.... If this is so, how are we to get this information across to students?"

Evaluators also expressed some dissatisfaction with the key questions in this Topic. Notes in the Teaching Guides revealed at least two problems: some teachers expected virtually the identical responses to the questions suggested by the Teaching Guide and didn't recognize that the responses offered by their students had merit. One evaluator found it useful to reduce major questions to a series of related auxillary questions, as in the following example (Culture Study II, Activity Three):

Original question: TO WHAT EXTENT DO THE WAYS THE !KUNG ORGANIZE THEIR LIVES MAKE SENSE?

Rephrasing: HOW ARE THE BUSHMAN BANDS ORGANIZED? DOES THIS MAKE SENSE? WHY? HOW IS THE FAMILY ORGANIZED? WHAT TRAITS DO THEY DEMONSTRATE IN THEIR RELATIONSHIPS WITH OTHER PEOPLE? DO THESE MAKE SENSE? WHY?

III. Learning Materials The Hausa Dictionary appeared to be a unique learning experience for both students and evaluators. "We were suprised!" and "It opened up a whole new area of awareness." were representative comments. Evaluators reported that students were highly interested and the objectives for the activity were reached. This item of learning material seemed to be most successful with the ninth and tenth grade students. Only one evaluator reported that his ninth grade students "seemed puzzled" by the activity. Evaluators with seventh grade classes reported some difficulty--mainly a lack of time to complete the activity--though their students "seemed to get the idea." A class composed of Mexican-American students also encountered some difficulty "due to the language barrier" and an eleventh grade high-ability class thought that "the words had been too carefully chosen."

A most successful item of learning material--at least from the student's point of view--was the song "Stick-to-it-ivitiness." Reactions noted by teachers included: "The kids really identified with Curly and Sam (the two frogs)." and "They (the students) appreciated the change-of-pace." The tape seemed best suited for the seventh and ninth grade classes and classes where there were notable reading problems. Older students enjoyed the activity, but found it "overly simplified" and "The second singing of the American version was too long." One evaluator of a ninth grade class reported that his students "did not infer all the features."

The Hausa proverbs were apparently very difficult, particularly for younger and less sophisticated students. "Too deep for seventh graders" and "The slower students (ninth grade) were frustrated." were representative comments by teachers. Ten evaluators noted that their students had problems in understanding the proverbs. A key to the source of student difficulties might be found in the remarks of one teacher of a seventh grade class: "My students had no background in proverbs." It might be that homilies and proverbs have become casualties of the revolution of electronic media. This item of learning material was noted excellent by one evaluator whose students were eleventh grade Mexican-Americans.

The Bushman picture cards were rated very highly by evaluators. Evaluators whose students were seventh graders found this a particularly successful item of learning material, though evlauators at all levels also found it effective. Student enjoyment coupled with the suggested teaching strategy of pairing were the reasons offered by evaluators. Older and more sophisticated students seemed to appreciate the use of art as a source of social data. One mildly negative comment was made by an evaluator whose eleventh grade "high ability" students found the material "rather juvenile."

The tape-filmstrip The K'allu of the Mech'a Galla was a unique item of learning material to most students and evaluators, and evaluator judgement suggests that it was effective. An evaluator, commenting on the simultaneous use of the two media, offered the explanation: "A tape is better than a teacher." Evaluators reported that this item of learning material "led to quite a discussion" and "the students were led to seek out more information." Reaction was uniform at all grade levels.

Transparency A - Land Ownership Among the Kikuyu was used in conjunction with a student reading on the same subject. Evaluators, who noted that students had had difficulty with the readings, were virtually unanimous in their assessment that the strategy of combining the reading with an explanatory transparency had been effective. The basic criticisms involved a need for more explanatory data "on divorce and land purchase" and "clarification of present land system."

IV. Learning Techniques The consensus of the evaluators was that grouping was the most useful technique, with pairing frequently mentioned as being particularly successful as was pairing with the data analysis sheets.

An explanation for the success of this technique was offered by an evaluator who thought that "Students could discuss the material in small groups without fear of being contradicted." Several evaluators were of the opinion that many students lack self-confidence and that, "the only time they contribute to the class is when they are in small groups or paired." Another evaluator preferred pairing because, "Two do more work than a group." One evaluator considered individual work to be most useful and one preferred the tape-filmstrip.

Several contradictory themes emerged here, however. Three evaluators thought that grouping in the Bushman rock painting activity was the least useful; this was listed by other evaluators as a most useful technique. An evaluator from a medium-sized midwestern city, whose eleventh grade students were in the "high ability" group, thought that her students "seemed insecure" in this activity. Other evaluators, dealing with students of different background and sophistication, found this type of activity particularly useful because it seemed to alleviate the insecurity that many of their students found in the conventional classroom.

Two evaluators were of the opinion that discussion was the least useful technique ("Seventh graders don't discuss for forty-five minutes.") and three evaluators thought that individual work, particularly outside reading assignments, was least useful because "students don't do the work." One evaluator thought that the map activities were least useful because they offered "no opportunity for drill."

V. Additional Comments The following are key comments made by evaluators in this category:

> "The material is too difficult for seventh graders. The vocabulary is difficult...and the students are having difficulty in adjusting to a new method."
>
> "Students do not verbalize'if--then...' often enough."
>
> "Students get tired of being repeatedly questioned--asked to draw inferences, make hypotheses, etc. Students are always wondering if they are right."
>
> "The audio and visual items should be coordinated. Two senses are better than one."
>
> "The project needs extra work for better students and readings for students who are absent. How do I handle make-up when a student is absent?"

TOPIC II - HISTORY OF AFRICA

I. General Reaction The majority of the evaluators were of the opinion that this Topic was too long and too repetitious. "The reading assignments were too long for my students (tenth grade)" was one report, and several evaluators thought that there was not enough use of audio-visual material. One evaluator observed that his students groaned when they saw the word "History" on their student booklets. Critics of the content objected to "over emphasis on Zimbabwe" and "too much emphasis on empires." One evaluator reported that "many parents voiced their dislike of conversations to teach the so-called 'facts' about Africa."

Eight of the evaluators, however, liked some aspect of history. Two mentioned some aspect of historiography: "...The approach to history--the documents, readings, etc.--was most meaningful." Two mentioned the Zimbabwe filmstrip, and four evaluators mentioned the units on Africa Before 500 A.D. and Black African Kingdoms.

Four evaluators also liked the map exercises most and three liked most Unit III, The African Slave Trade (particularly the "Estimated Cost" activity). The student newspaper was singled out as "most effective" by two evaluators.

II. Teaching Guide All but one of the evaluators agreed that the format of this guide was useful. The evaluator who gave a negative response taught an eleventh grade "high ability" class. She thought that the activities were "overly simplified and too repetitious" for her students.

A major criticism still involved the length of time required for some of the activities though this category of suggested change is not emphasized by evaluators nearly as much as it was in the preceding two Topics. Two evaluators reported that "some lessons are too long, others too short" and two requested more time for some activities.

Two evaluators requested additional activities such as "more test items and written work" and "suggestions for above-average and below-average students." One evaluator found the activities "too structured" and one requested "additional examples of expected student responses."

Evaluators thought that the background information included here was adequate. However, some indicated there was a general lack of information on the colonial period and the African independence movement. One evaluator thought that additional background data on the Berlin Conference "to show the complete cynicism of the colonial powers" would be helpful, and another wanted more biographical data on African leaders.

Activity Three, Unit III requires teachers to describe briefly the characteristics of plantation slavery in the New World. One evaluator requested this information in the Teaching Guide. Several evaluators requested a pronunciation guide. One suggested that a key for all student activities should be provided.

With one exception, evaluators reported that key questions were more than adequate. To the negative report--an evaluator whose class was an eleventh grade "high ability" group--was appended the comment that there were "too many obvious responses."

Notations made in the Teaching Guide indicate that teachers sometimes had to break down questions into supplementary questions to evoke the desired student responses. A comparison between the notations for each activity made by two thorough evaluators does not reveal a consistent pattern of "problem" key questions or even "problem" activities. Activity One, Unit IV, was considered "too long" by one evaluator whereas another evaluator rephrased several questions and apparently had no time problem.

A list of some of the key questions that presented problems to evaluators follows:

Unit I.
- Activity One, Question five--too hard for students

Unit II.
- Activity One, Question four--term "square" confused students
- Activity Three, Question two--needs supplementary questions
- Activity Four, Question one b--takes too long
- Activity Four, Question three--needs supplementary question

Unit III.
- Activity Three, Question two--needs rewording
- Activity Five, Question one--needs supplementary questions

Unit IV.
- Activity One, Question four--needs supplementary questions
- Activity Two, Question five--ask for evidence

Unit V.
- Activity Two, Questions four and five--too long
- Activity Four, Question three--students confused...
- Activity Five, Question three--question "not worth it"

One evaluator cautioned against the terms "characteristic" and "analogy" (location in Teaching Guide not noted) in questions and directions for students.

The excessive length of homework reading assignments--particularly the assignment for Activity Two, Unit II.--bothered another evaluator.

III. Learning Materials The item of learning material that generated the most favorable response from teachers was the newspaper African World. "We spent more time with this than anything else." and "Dramatic--history made interesting." were two fairly typical reactions. However, the success of the newspaper did not deter teachers from suggesting improvements. More recent news (three teachers), more issues, a cartoon and "something of interest to young people" were suggested. A seventh grade class apparently thought the paper came from Africa, and a teacher of a tenth grade class reported that her students felt "tricked--it wasn't authentic." The paper was considered successful by teachers at all grade levels of the testing sample.

The Timeline was less successful, though part of the proplem mentioned by teachers can be attributed to the poor quality of the transparency. Three teachers opined that the accompanying homework assignment was too long and three noted that students with reading problems had difficulty with the assignment. The teachers of seventh grade classes were unanimous in their opinion that it was too difficult for students at this level. One teacher thought the activity was, "Great! Compels students to do research." An eleventh grade teacher suggested that the Timeline would have more meaning in later lessons.

"The filmstrip Mystery of Zimbawe was one of the best we have had" and "It was confusing--too much unexplained." are examples of the contradictory reactions by teachers to this material. There was no patterned reaction by grade level. Several teachers complained about the poor quality of some of the frames.

A mathematical error in the Slavery Estimated Cost Sheet caused some minor problems with this item of learning material, though one teacher reported: "After some work, we finally got your answer." Most comments were favorable: "Students enjoyed it." "Created interest." and "aroused lively discussion." were typical. One teacher dismissed the Cost Sheet as "busy work" and another asked: "Was this trip necessary?"

The tape recording with transparancies (IV) provoked extreme responses possibly for two reasons: this type of material may have been regarded by the teachers as essentially expository and teachers opinions are divided on the utility of expository strategies (see subsequent comments on "Teacher Profiles"). A second problem was occasioned by the apparently wide variance in the quality of the tape recordings or the tape recorders used by the teachers. Four teachers reported that their students could not follow the script. This was either the "high point of the unit" or "boring."

One of the least-preferred items of learning material was the Data Card--African Independence. Difficult, cumbersome and boring are some of the adjectives used to describe it. One teacher thought that it was "dangerous to generalize from only four countries". The vocabulary was too difficult for seventh graders, and the "contrasts before and after (independence) were too obvious." Seventh and ninth grade classes appeared to have particular difficulty with this material.

Reactions by evaluators to the Study Guide Activity Two (Conclusion) were mixed. "A+--worth the entire program" (from a tenth grade teacher) and "Not necessary..." (from another tenth grade teacher) are sample comments. Four teachers (seventh and ninth grades) thought the activity too difficult, and two teachers (tenth and eleventh grades) were of the opinion that their students already understood this point of the activity. One teacher, perhaps inadvertently, disagreed with one of the objectives of the activity: "This exercise," he complained, "can make students distrustful of written history."

IV. Learning Techniques Evaluators frequently listed several techniques as most useful---activities involving pairing and grouping were most frequently mentioned (8). Reasons ranged from "This technique gives insecure students a chance to express themselves." to "The students have an opportunity to move about and they welcome the change from the teacher's voice."

Six evaluators thought the tape-transparencies were most useful. They listed such reasons as student interest and the epistemological advantages of using two simultaneous sensory stimuli to effect learning.

Despite the fact that lectures were not included in the Topic learning techniques three evaluators listed lectures as the most useful.

Class discussion was listed as useful by two evaluators. One noted that his discussions livened up considerably after he began weekly checking of student notebooks and study guides. Filmstrips and the study guides were each listed by one evaluator while the technique of giving out different homework reading assignments (Unit I, Activity Three) was mentioned as most useful by one evaluator, and several evaluators commented favorably on this technique in their Teaching Guides.

Several techniques were criticised. The tape-transparency and the tape lecture were most frequently mentioned by evaluators (six) as being least useful. The tape-transparency suffered from poor audio quality (three) (one evaluator suggested dubbing in "jungle noises") and had in the opinion of another evaluator "the general defects of the lecture method."

Two evaluators found the Zimbabwe filmstrip "overly long," while four evaluators thought that techniques that involved homework were least useful. "Discussions didn't go well as students weren't prepared." and "The individual study guides would not be completed by the students because they prefer to talk over an answer before writing it down." were representative reasons offered by evaluators for this weakness. In addition, pairing was disliked by two, one who felt that "one student tends to dominate" and the other who observed that "the slower students form a group in the corner and do nothing."

TOPIC III - CHANGING AFRICA

I. General Reaction Evaluator reactions here follows a grade-level pattern. Some of the material (particularly the study guides) seemed to teachers of grades seven through nine "too difficult" and "had no meaning for the students." One evaluator commented that, "My students haven't yet begun to think seriously about jobs, family life, etc..."

An opposite reaction was noted by several evaluators with tenth and eleventh grade classes: "Not enough on forces of change." and "My students want more independent study, group work, etc. in depth." The evaluator who made the latter statement also opined; "My students have learned the inquiry method...They now need more activities involving application."

Several evaluators noted that some of the lessons seemed repetitious and "not long enough to hold students." Several of the activities--particularly in the units on Work and Education--were designed on the assumption that American students accepted unquestioningly the "acquisitive ethos" of American society. One evaluator observed that the majority of his Mexican-American students had value systems where "whenever there is a conflict between the family and material progress, the family takes precedence."

Students and evaluators generally thought that the readings and activities "were very relevant to current American problems." Several evaluators singled out the unit on Education "because it dealt with an area in which we were directly involved" as providing the most student interest.

Two evaluators, however, thought that the length of the lessons was "more realistic" and one evaluator reported that he "didn't feel pressed for time" and had more opportunity for class discussions. The filmstrips on Changing Africa were identified by two evaluators as the most interesting, largely because their content was a departure from usual sterotype of Africans living on the land.

II. Teaching Guide The Teaching Guide contained daily lesson plans as well as special materials for the teachers. Evaluators agreed that the format was useful. One evaluator, referring to the formats of all the teaching guides, labeled it "excellent," saying that" "I am adopting it for my own use. It leaves little to guess work and I'm sure a substitute teacher could fit into the program with a minimum of effort using this format!"

In general, suggested changes echoed points made about the preceding Topics. Two evaluators requested additional information about African authors. Several found it expedient to break down general questions into several more specific subordinate questions.

Two evaluators suggested that Activities Two and Three, Unit II (Work) be combined or (one evaluator) an additional activity be substituted. Another evaluator thought that the logic of the content placed Unit III (Education) anterior to Unit II.

III. Learning Materials The filmstrip Changing Africa #1 was useful. "The students were able to get exactly what was intended." It seemed to be more successful at the seventh and ninth grade levels than at the tenth and eleventh. An evaluator of a tenth grade class thought that "Some students may be tired of the technique.," and an eleventh grade evaluator thought that it "took too much time (the class got the idea the first time)."

A highly successful learning material was the set of readings Changing Africa (pages 1-10 in the student booklet). Evaluators at all grade levels reported it effective. "The newspaper ads created great interest." "Students drew many inferences." were sample reactions. The "Tell Me Josephine" feature was also "a hit!" Evaluators noted the variety of readings, the subject matter (many features focussed on individuals) and the novelty of the excerpts from African newspapers as being effective elements of the activity.

Students and teachers alike seemed tired of filmstrips. Changing Africa #2 apparently helped students reach the objectives of the activity, but several evaluators thought that the filmstrip "didn't generate adequate responses." One evaluator emphatically insisted that the filmstrips "needed more on Addis Ababa." Seventh and ninth grade evaluators generally liked the filmstrip whereas evaluators with upper level classes tended to be more critical.

The handout "Analysis Chart--Patterns of Work" appeared to be an "effective aid for analysis of change." The technique of a simple verbal matrix analysis helped to clarify a rather complex sociological concept, and two evaluators suggested using the same technique for longer reading assignments. One category in the matrix, "Who Gets Recognition," was reported by two evaluators as being too difficult for the students (seventh and ninth graders), and one evaluator thought that the example of work patterns in the mines was atypical.

Sharply conflicting evaluations were generated by the handout "Some Effects of Industrialism in Africa" used in conjunction with the taped interview "Peter the Woodcarver." Three evaluators thought that the authenticity of Peter's dialogue "made" the activity, and they gave this item of learning material their highest marks. Six evaluators reported that their students had trouble following the dialogue and several others thought that the tape was "overly long." The handout "Some Effects of Industrialism" was described as too difficult for some students, particularly at the lower levels, but evaluators with tenth and eleventh grade classes reported that it "provoked a lively discussion." and "The students enjoyed working with statistics."

A reading that was interesting and enjoyable to students was "A Uganda Schoolboy Tells His Story." Teachers reported that their students were "able to relate well to the story" (seventh grade) and that "It seemed authentic--the students wanted this source." One evaluator noted that her students "could understand their own education much more after this.," and another added that the reading "sparked an interesting analysis of the options open to the boy." These comments suggest that the reading might be useful in a value clarification activity. Similar reactions were generated by the reading "Lullabies and a Cracked Slate." Students were "pleased" (seventh grade) and "astonished" (tenth grade)." "The students wanted to compare methods and purposes of education." reported one ninth grade teacher, and another ninth grade teacher commented that, "This activity generated the most discussion of all. The students were very outspoken about their own families and upbringing." The same teacher reported that her students were drawn toward the folk society depicted in "Lullabies."

The Levitt reading and tape recording were reportedly well-received by the students as "a good change of pace," and evaluators at each grade level indicated that they provoked good discussions. Negative comments--"It needed a visual." and "There was too much too fast."--suggest that, among other things, the accompanying teacher strategies should be modified with this type of material.

Perhaps the most successful items of learning material in Topic III were the transparancies, "Extended Family" and "Nucleur Family." Favorable teacher response seems to have been prompted by the "clarity it gave to a difficult topic." Another teacher thought that the transparancies were "easy to build on." Teachers commented that students at each grade level found the material both interesting and understandable.

Evaluators were virtually unanimous in their assessment of the handout "Drums and Friendship." "Was this needed?" was one of the gentler comments. The problem as perceived by most teachers was that the material was too obtuse for the objectives of the activity. "The students could not see how these organization met the needs of Africans." illustrates this view. The handout was not a complete failure; one teacher thought that the content was intrinsically interesting.

The last activity in Topic III was the "Study Guide Activity Four." A ninth grade teacher labeled it "an excellent device--the most successful study guide in the program. It let students observe the relationship between variables and forced them to think." Yet, a seventh grade teacher did find fault with the graphs ("pooly drawn") and an eleventh grade teacher complained about the ensuing class discussionas being "not as relevant as others."

IV. Learning Techniques No consistent pattern of preferred techniques emerged from responses here. Pairing and grouping, which had been most frequently listed in prior evaluations, were indicated as "most useful" by only three evaluators. Techniques involving whole class participation (tape-recordings with discussion, transparencies, filmstrips and class discussion) were selected as most useful by nine evaluators. Reasons given ranged from student interest in the content ("Students became very outspoken in their discussion of African education.... They saw how it applied to their own lives.") to changes in student attitudes and behavior ("By this time the students are much freer in class discussion than they were.").

Two evaluators thought that the study guides, particularly those using statistics (Africa Today; IV, 4), were most useful because they provided students with "practice in drawing inferences from statistical data" and "an activity that was especially challenging."

The tapes and the filmstrips were singled out by evaluators as being the least useful techniques. Reasons offered for the less effectiveness of the tapes concentrated on "the short attention span of the students" and their "lack of audio sense." One evaluator found that the filmstrips "did not present the situation clearly" and another complained "I was never able to generate good class discussion from them."

Lectures ("They downgrade interest.") and pairing ("The better ones will not accept suggestions from the other students.") were also mentioned as being least useful.

General Summary of Teacher Reactions

Almost all of the eighteen "first time" evaluators reported reactions to the Project program that can be described as ranging from approval to enthusiastic. Only two were highly critical of the program--one, a teacher of eleventh grade academically advanced students, and the other a very traditional, ninth grade teacher.

However, all evaluators experienced certain degrees of difficulty in launching the program. The Project materials and strategies required teachers to assume the role of a co-partner in inquiry rather than that of authority figures dispensing knowledge. Responses in the evaluation forms suggest that many teachers and students found themselves in a new and highly uncomfortable situation. Typical teacher reactions initially stressed difficulty in following the suggested strategies in the teaching guides and "problems with the time factor."

One teacher felt that "the first two weeks were a complete disaster." and one of his students reported,"We didn't know what was coming off." This teacher admitted "insecurity in not having the answers to give the students" and, like several other evaluators, requested "more data for the teacher" and permission to lecture. Though he never fully mastered the time element, he gradually acclimated himself to inquiry-teaching and particularly his new role as a facilitator, rather than expositor, of learning. As the semester progressed, he even came to enjoy the interplay generated by inquiry-teaching. His students also seemed to enjoy the change, for one of them when asked on the student questionnaire what he liked best about the course, responded: "The teacher, and the fun we had learning."

It is clear that the structured teaching strategies in Africa south of the Sahara were greatly resented by some of the teachers. Such structuring was, of course, necessitated by the need to test the use of specific techniques and strategies as well as materials. But in spite of the fact that pleas for flexibility were a ubiquitous feature of the evaluations, approval of the program as a whole was widespread. One teacher, for example, after noting that "the project is a ravenous consumer of time and energy," reported:

> My students have had numerous valuable experiences with the project. Three of particular significance are: stating and working with hypotheses cooperating in groups and in pairs, and in finding common bonds for the whole of humanity.

Another teacher summed up his evaluation by noting the impact of this program on his class of Mexican-American students:

> I cannot emphasize enough the outstanding response that was achieved for these students. The interest was high nearly from the beginning and remained high throughout the entire course. The students carried their enthusiasm over into other classes and...other instructors have commented upon their change in attitude. ....At the time the class was selected, it was a very mediocre group. They were the second poorest of my four classes and during the early part of the course, the hardest thing I had to cope with was their inability to express themselves. Somewhere that ahanged and when it did, their grades climbed.... At the end of the year, the students were considered to be above average. The use of tape-sound technique was extremely effective, the inquiry method, group discussion, pairing, all these techniques achieved outstanding results in interest and I believe in knowledge.
>
> The inquiry method of instruction used in this project has resulted in some amazing changes.... Through the inquiry method, they have been forced into thinking and analyzing materials. Observers in the class have been consistently amazed at the amount of response the class produces. Today, they

> have much more confidence in themselves, are more interested in school, and in general have developed far more than many of our educators believed that the Latin-American student ever could.

A ninth grade teacher whose class consisted primarily of "problem learners"--poor readers, discipline problems and repeaters--volunteered on his final evaluation:

> Project Africa is proving that social studies can be interesting and even fun for students of low average abilities and reading skills. Furthermore, these same students are really learning both skills of inquiry and knowledge of Africa. ...Students made excellent growth in knowledge, skills, and self-esteem all three of which are only fully appreciated if one knows these students. One of the most impressive things about this program is the fact that slow readers and low motivated students can be reached with this material and yet it is still very useful for the more able student. True, it maybe won't reach both extremes, but it comes closer than anything we have seen yet.

Finally, another evaluator who was enthusiastic about the program reported to the Project in November 1969--a full six months after he had concluded the field trials:

> I have personally spoken with many of the teachers this group had last year and also those with students enrolled this year. Almost to a teacher, they have commented that the group caught fire during the second half of last year and their work has progressively improved this year through the first marking period. Perhaps this would have happened without Project Africa but I sincerely feel that the exposure to daily discussion through the inquiry method the project used gave them both confidence in themselves and a desire to learn more.
>
> More satisfying than anything else is the fact that these students have talked to others this year and I have had numerous requests and queries pertaining to the possibility of another course in this subject. I only wish it were possible.

The two evaluators who disliked the program did not submit any general comments similar to these, but rather confined themselves to comments on specific points as noted above. Even those who did react favorably to the materials and strategies in general were most candid in their comments and criticism of specific items or activities--their

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approval was by no means totally uncritical or one of blind enthusiasm for anything new or different. There is no doubt that at least from the teachers' point of view, the materials in this program have certain strengths and certain weaknesses. But here is also little doubt that by far the majority of the teachers who evaluated it liked it and believed it was beneficial to their students.

III

STUDENT REACTIONS

E. Perry Hicks and Sven E. Hammar

The materials and learning activities which make up Africa South of the Sahara were designed to accomplish multiple objectives. The cognitive objectives related to knowledge about Africa and skills of intellectual inquiry are discussed in Part IV of this report. In this section, the affective objectives of the program are discussed.

One prime purpose of this course of study was, to paraphrase Mager, to send students away from instruction anxious to use what they have been taught and eager to learn more.[1] The objective was to increase the incidence of "approach responses" and to reduce the incidence of "avoidance responses."[2] We wanted students to "like" the study of Africa!

Therefore, a conscious effort was made throughout the course to make the materials and the activities enjoyable--more enjoyable, in fact, than those in usual social studies course. This effort was predicated upon two basic assumptions. One was that students will learn more and remember it longer if they enjoy what they are doing rather than if they are bored or disenchanted. The second was that, although many of the outcomes we hoped to achieve were long range and could not be measured directly, they could be evaluated indirectly by evaluating the positive and negative responses of the students towards the course and things related to it. These long range objectives included continued interest after completion of the present study--interest in Africa and in social studies, willingness to take additional courses in related areas, and, in general, a more positive attitude toward schoolwork.

Other studies have referred to "classroom climate" and the effect this has on students and teachers. In a positive classroom climate students "like" the course and the teacher likes the students. Things just seem to go well and there is a general feeling that it is a "good" course--that "everyone is learning a lot." If such a feeling does in fact evolve from a positive classroom climate, then it very well may carry over into future contacts with social studies and with social studies content. It has been well documented that this effect has, in fact, been operating in a negative way in social studies courses. Among high school students, history and social studies courses are continually ranked as least "liked" and least "useful."[3] The Project Africa program was designed to counter-act this attitude--to bring students to see social studies in a more positive light.

Affective outcomes of instruction are, of course, extremely elusive. Attitudes cannot be measured directly, the approach responses which are indicative of the desired future behavior have to be observed, and student responses to attitude questionnaires are often unreliable. But in spite of these handicaps, we have attempted to evaluate some of the affective outcomes of Africa South of the Sahara. We have sought to find out if the program generally produced a positive effect and, more specifically, what particular parts of the materials contributed to this.

Two instruments were used to gather data about these affective results. Both instruments contained items related to a general positive or negative feeling about the course of study and items relating to feelings about specific aspects of the program. The first instrument, a Semantic Differential, was designed primarily to provide data on the general attitude of students toward the social studies classes in which they were enrolled and the activities encountered in these classes. The second instrument was a questionnaire which was designed primarily to determine which elements in the program contributed most to the desired classroom climate and which contributed the least.

SEMANTIC DIFFERENTIAL

The semantic differential instrument contained nine concepts, each of which was judged by the same seven matched pairs of evaluative adjectives. The adjectives in each pair were separated spatially by a seven point scale upon which students could indicate intensity of agreement. To illustrate, the first concept in the instrument was SCHOOL. The item to which students were asked to respond was :

SCHOOL

good ____ : ____ : ____ : ____ : ____ : ____ : ____ bad
fair ____ : ____ : ____ : ____ : ____ : ____ : ____ unfair
meaningful ____ : ____ : ____ : ____ : ____ : ____ : ____ meaningless
pleasant ____ : ____ : ____ : ____ : ____ : ____ : ____ unpleasant
successful ____ : ____ : ____ : ____ : ____ : ____ : ____ unsuccessful
valuable ____ : ____ : ____ : ____ : ____ : ____ : ____ worthless
nice ____ : ____ : ____ : ____ : ____ : ____ : ____ awful

The spaces between each adjective pair were numbered 1-7 with 1 representing the most negative response and 7 the most positive. Therefore, each adjective pair generated a score. The sum of these seven scores was taken as the score for the particular concept under consideration.

The concepts included in the instrument were chosen as representative of various aspects of school, social studies classes, and area studies. The concepts were: SCHOOL, LEARNING, SOCIAL STUDIES, TEACHER, HOMEWORK, MAPS-FILMSTRIPS-READINGS, AFRICA, ASIA, and SOUTH AMERICA.[3] This instrument had not been standardized prior to its use in this study, so that no norms had been established. In addition, there was no available baseline data with which the results could be compared. Therefore, it was necessary to give the instrument to the experimental groups and to control groups and analyse the difference in raw scores between these groups.

The semantic differential was administered at the end of the course of study to the experimental class and one control class in each of eighteen schools. In three of these schools, the experimental class was taught by a teacher who had assisted Project Africa in developing the course materials. The other fifteen experimental classes and all of the control classes were taught by teachers who had no prior contact with the program.[4]

For purposes of analysis, the experimental and control students were grouped by school, race, and sex. The mean score for each group was used as the basic unit for analysis. For example, the experimental non-black males in school 3, taken as a group, had a score for each concept as did those in the control class. Similarly the black males, the non-black females, and the black females in both the experimental and control classes in each school were taken as a unit with a mean score for each of the nine concepts. The scores of each group for each concept are given in TABLE I. It should be noted here that students in school 12 did not respond to the ninth concept. Schools 16-18 were those in which the experimental class was taught by a teacher who had been involved in the preparation of the materials.

Results

Inspection of TABLE I shows significant results in the areas of experimental-control group differences, sex and race differences, general-specific differences, and the effect of the individual teacher. The three schools (16, 17, 18) in which the experimental teachers had worked with Project Africa constitute special cases and the results from them are considered separately. Therefore, the following analysis pertains to the fifteen schools in which no experimental or control teachers had contact with the materials prior to teaching them.

Using school, sex, and race as criteria for forming groups resulted in a total of 32 pairs of experimental and control groups in 15 schools. There were 14 groups of non-black males, 2 groups of black females.

For all the nine concepts, the experimental groups had higher scores than the control groups more often than lower scores. For six of the nine concepts, the experimental groups scored higher than the control groups more often than they scored lower. These concepts were: SCHOOL, LEARNING, TEACHER, HOMEWORK, MAPS-FILMSTRIPS-READINGS, and AFRICA. For two concepts, SOCIAL STUDIES and SOUTH AMERICA, more control groups had higher scores. For the concept ASIA, experimental groups had higher scores the same number of times as control groups.

For the concept AFRICA, experimental groups scored higher than control groups in 22 of 32 cases. For the concepts SCHOOL and MAPS-FILMSTRIPS-READINGS, the experimental groups scored higher in 20 instances.

Taken across all nine concepts, the female experimental groups scored higher than the control groups no more frequently than did the male experimental

TABLE I

X = experimental
0 = control

	Concepts								
	School	Learning	Social Studies	Teacher	Homework	Maps, filmstrips, reading	Africa	Asia	South America
School #1									
males non-black X	33.4	38.3	32.7	27.9	21.3	39.2	38.1	34.9	34.6
males non-black 0	36.7	39.5	34.4	32.3	24.9	38.8	28.7	27.9	32.6
fem. non-black X	35.9	33.7	32.6	33.1	29.6	38.7	37.6	35.0	35.6
fem. non-black 0	38.6	37.5	35.9	36.6	29.8	36.7	34.7	36.1	37.5
School #2									
male non-black X	33.6	35.4	37.6	35.8	28.9	39.3	32.8	31.8	33.3
male non-black 0	30.4	40.0	25.5	30.0	25.0	40.2	26.2	23.9	25.1
fem. non-black X	34.2	38.9	35.6	36.7	28.5	35.6	34.9	32.9	33.3
fem. non-black 0	35.3	39.6	33.1	34.6	25.3	39.5	34.9	35.1	33.5
School #3									
male non-black X	40.8	38.8	28.0	36.6	29.8	29.4	30.0	30.8	28.6
male non-black 0	37.7	39.1	38.7	40.7	31.8	36.2	32.2	34.7	34.4
male black X	37.3	37.7	34.0	31.7	33.0	39.8	32.7	29.7	37.3
male black 0	36.3	38.1	36.1	38.9	31.8	37.4	37.9	32.0	29.7
fem. non-black X	37.1	42.8	34.6	35.6	32.0	39.1	38.6	35.5	38.1
fem. non-black 0	35.8	36.6	33.9	36.1	20.5	31.8	30.0	29.6	28.1
fem. black X	38.2	40.2	35.4	34.1	31.0	38.3	39.4	29.9	38.2
fem. black 0	41.3	40.7	37.7	43.8	36.0	30.0	36.7	33.7	34.0
School #4									
male non-black X	35.9	36.2	27.1	35.3	22.6	35.1	27.6	28.7	29.7
male non-black 0	34.0	37.6	36.6	32.1	22.2	38.4	30.0	29.1	30.2
fem. non-black X	36.0	36.5	32.3	35.4	23.5	32.8	31.6	29.9	31.0
fem. non-black 0	35.9	37.8	35.8	35.4	23.5	32.8	31.6	29.9	31.0
School #5									
male non-black X	35.0	37.5	39.0	39.3	28.6	37.2	40.0	33.7	34.8
male non-black 0	32.8	36.8	32.4	34.3	21.9	40.3	32.1	28.1	31.3
fem. non-black X	36.5	38.8	39.0	36.6	31.0	40.2	37.7	28.8	33.9
fem. non-black 0	33.3	35.5	33.7	34.3	21.0	38.5	35.0	32.8	34.5

TABLE I (cont.)

	School	Learning	Social Studies	Teacher	Homework	Maps, filmstrips, reading	Africa	Asia	South America
School #6									
male non-black X	33.2	36.3	32.9	31.1	25.8	32.5	35.6	32.7	37.5
male non-black 0	36.7	39.2	34.2	40.2	33.1	40.1	32.2	33.5	33.2
fem. non-black X	36.5	40.2	34.6	39.9	27.7	38.0	35.9	31.7	36.2
fem. non-black 0	34.8	38.8	34.5	38.1	23.4	37.8	33.7	31.6	35.6
School #7									
male non-black X	36.5	40.2	33.1	37.4	26.8	43.0	32.7	30.5	38.2
male non-black 0	34.1	37.5	34.3	31.9	20.1	39.5	35.3	32.5	39.0
fem. non-black X	42.1	42.1	42.5	42.7	36.9	42.1	39.5	38.4	39.4
fem. non-black 0	35.9	38.8	33.8	34.1	30.6	35.7	36.4	35.8	38.5
School #8									
male - black X	41.5	42.2	42.5	40.7	40.2	46.7	44.2	38.2	37.0
male - black 0	46.3	46.0	47.7	45.7	37.7	48.3	40.3	40.3	41.0
fem. - black X	27.2	31.0	29.2	22.7	19.7	23.2	24.5	21.2	23.5
fem. - black 0	41.0	42.8	40.2	38.0	33.4	41.0	34.8	36.5	35.1
School #9									
male non-black X	40.5	42.0	41.5	41.9	33.4	40.3	37.4	36.4	37.8
male non-black 0	36.3	38.2	36.5	38.1	33.1	39.1	36.2	34.1	33.5
fem. non-black X	36.5	38.4	38.0	37.2	31.1	37.1	36.0	35.9	35.6
fem. non-black 0	36.0	33.0	30.3	32.7	24.0	35.0	39.0	31.0	21.3
School #10									
male non-black X	33.4	35.8	36.1	32.5	23.9	34.6	36.0	27.0	29.3
male non-black 0	37.2	39.5	33.2	33.8	28.6	37.6	28.2	31.1	29.6
fem. non-black X	36.7	39.3	34.5	33.5	26.3	36.8	25.3	31.7	34.3
fem. non-black 0	32.3	37.6	29.3	30.6	27.3	39.2	30.9	31.5	27.4
School #11									
male non-black X	34.4	37.7	34.2	33.3	26.2	42.2	31.3	31.1	31.9
male non-black 0	32.8	35.1	30.8	32.1	26.1	38.9	28.1	29.5	31.1
fem. non-black X	36.0	36.6	32.6	34.0	25.1	37.0	30.5	31.6	31.7
fem. non-black 0	36.2	34.8	29.3	38.2	31.1	37.8	31.4	35.6	37.2

TABLE I (cont.)

	School	Learning	Social Studies	Teacher	Homework	Maps, filmstrips, reading	Africa	Asia	South America
School #12									
male non-black X	37.2	39.6	33.7	33.8	24.1	39.3	33.5	32.8	----
male non-black 0	32.1	36.1	36.4	30.9	29.9	34.2	28.1	29.0	27.7
fem. non-black X	33.4	36.1	29.6	31.8	25.9	35.8	34.4	29.4	----
fem. non-black 0	35.2	38.0	39.5	35.3	30.1	36.4	34.8	33.6	34.6
School #13									
male non-black X	33.9	38.4	30.4	33.2	21.8	40.9	22.1	24.4	25.4
male non-black 0	34.2	39.1	32.6	35.2	23.9	33.2	25.5	25.2	28.2
fem. non-black X	35.9	39.6	32.5	36.5	23.7	39.5	27.2	28.0	30.5
fem. non-black 0	35.7	39.6	38.5	35.9	20.6	35.6	36.9	31.7	36.2
School #14									
male non-black X	38.1	39.4	36.4	34.9	25.9	40.2	32.8	29.2	34.4
male non-black 0	34.8	37.2	34.1	33.7	25.3	33.3	24.6	26.1	29.5
fem. non-black X	38.2	40.1	39.1	38.9	26.3	43.4	35.7	34.8	35.2
fem. non-black 0	35.3	39.3	19.7	33.3	20.3	36.0	14.7	21.7	20.3
School #15									
male non-black X	35.0	37.8	27.9	30.8	26.5	35.4	21.2	21.4	30.2
male non-black 0	30.2	32.1	31.1	26.7	24.7	31.0	21.0	21.5	25.7
fem. non-black X	33.3	37.3	31.3	28.6	20.6	35.8	28.7	25.0	21.3
fem. non-black 0	35.2	34.7	33.0	27.2	21.2	28.8	20.7	23.8	24.7
School #16									
male non-black X	29.1	35.6	40.0	35.0	24.0	39.2	42.6	32.6	37.9
male non-black 0	36.2	41.7	34.5	36.1	26.2	43.2	32.0	30.3	33.1
fem. non-black X	37.2	38.5	36.5	41.7	36.7	40.0	36.7	35.7	36.5
fem. non-black 0	36.4	38.1	34.6	38.1	29.6	33.5	23.7	29.0	29.9
School #17									
male non-black X	37.3	40.8	41.3	43.2	27.0	41.6	40.4	35.0	34.3
male non-black 0	34.9	38.5	37.9	39.7	23.9	37.1	29.0	28.9	26.1
fem. non-black X	41.8	42.7	44.8	46.1	33.1	45.2	42.8	39.6	41.8
fem. non-black 0	39.5	42.1	44.4	46.9	33.1	42.3	36.5	35.9	35.9

TABLE I (cont.)

	School	Learning	Social Studies	Teacher	Homework	Maps, filmstrips, reading	Africa	Asia	South America
School #18									
male non-black X	38.1	39.2	35.4	35.9	23.2	40.8	40.3	34.3	35.7
male non-black 0	35.2	39.5	27.2	33.7	26.4	39.7	30.0	29.6	29.7
fem. non-black X	37.7	40.3	33.7	39.1	22.5	37.5	42.2	34.6	35.5
fem. non-black 0	34.8	37.2	30.9	35.2	23.1	38.1	30.4	30.6	30.0

groups. The female experimental groups scored higher than the control groups more often than did the male experimental groups for the concepts LEARNING and SOCIAL STUDIES. The male experimental groups scored higher than the control groups more often than the female experimental groups for the concepts SCHOOL, HOMEWORK, and SOUTH AMERICA.

The black control groups consistently scored higher than the black experimental groups. For the concepts HOMEWORK, MAPS-FILMSTRIPS-READINGS, and AFRICA experimental groups scored highest twice and control groups scored highest twice. For the other six concepts, the control groups scored higher than the experimental groups more often than lower.

The highest possible score for any concept on this instrument was 49; the lowest was 7. The actual scores ranged from a high of 43.8 to a low of 14.7. Most scores fell in the 30-40 range.

The scores for the concept HOMEWORK for both experimental and control classes were clearly below those for any of the other eight concepts. Of the first four concepts, SCHOOL, LEARNING, SOCIAL STUDIES, and TEACHER, SOCIAL STUDIES received the lowest score most often.

Examination of the data from the three schools (16, 17, 18) where the experimental teacher had been associated with Project Africa shows a marked contrast to the other schools. In these schools the scores for the experimental classes were higher than was generally true for the other experimental classes. This resulted in the experimental classes scoring higher than the control classes at a ratio of 5 to 1. This compares with a 5 to 4 ratio for the other schools.

In these three schools, the concept HOMEWORK received the lowest scores, as it did in the other schools. However, the concept SOCIAL STUDIES, when compared with SCHOOL, LEARNING, and TEACHER, received a more favorable score than it did in the fifteen other schools. The difference between the experimental scores and the control scores for the concept AFRICA was greater for these three schools than for the others.

Discussion

All inferences drawn from this data must be made with some reservation. Due to weaknesses in the research design, it is not possible to attribute the variance in the scores directly to the study of Africa South of the Sahara. The students were not randomly assigned to experimental and control classes. Nor was it possible to assign the treatment to the existing groups in a random manner. Finally, the Semantic Differential was not administered as a pretest to the experimental groups. Therefore, any variance that appears between specific concepts on the instrument or between the experimental and control group scores may be the result of the experimental treatment or it may have existed independently of or prior to the treatment.

There is also the possibility that the variance is the result of some type of Hawthorne effect. However, since this program lasted nearly a full semester, the novelty of the approach and the excitement of being part of an experiment can probably be discounted to a large degree.

Although, due to these limitations, any inferences based on these data are very tentative, it nevertheless seems worthwhile to make some. At best they may provide insight into what the effects of the Project Africa materials are; at worst they may provide take-off points for additional, more systematic research.

The experimental groups show a some what more positive attitude than do the control groups. When the instrument is taken as a whole, the experimental groups react more positively than the control groups in a ratio of 5 to 4. This is interpreted as evidence that the Project materials and instructional techniques do provide learning experiences which students view as at least as enjoyable and worthwhile.as those they normally encounter in social studies classes.

Examination of the responses to the separate concepts leads to more specific inferences. One of the Project's objectives was to develop in students a more positive attitude toward Africa. The student responses to the concept AFRICA indicate that this objective was realized. The experimental groups reacted more positively to this concept than did the control groups in nearly 70% of the pairings. No quantitative statement of how much more positive were the attitudes of the experimental classes can be made. However, there does seem to be a clear relationship between the study of the Project Africa materials and a positive attitude toward Africa.

In nearly 65% of the pairings, the experimental groups showed a more positive response to the concept MAPS-FILMSTRIPS-READINGS than did the control groups. This indicates that experiences with these types of materials in Africa South of the Sahara produced a positive result. These materials, used the way that the Project intended them to be used, were more enjoyable than the usual classroom contact or lack of contact with such materials. This is a second Project objective that appears to have been met.

The experimental materials included homework assignments which were designed to be both interesting and valuable. It was anticipated that, if these assignments were successful, the students in the experimental classes would develop a more positive attitude toward homework in general. The results indicate that this did not occur. While the experimental groups did score higher than the control groups for the concept HOMEWORK in 53% of the pairings, this is only a very slight difference. There are at least three obvious interpretations of this. The homework assignments designed by the project may be no "better" than those normally given in social studies classes. The assignments may be more enjoyable than usual, but they may also be more difficult, more frequent, and involve more time than those to which students are accustomed. In this case, the positive effect of "better" assignments may be counteracted by the negative effect of asking too much of the student. A third possibility is that, because student attitudes are so strong with regard to homework and because these attitudes are constantly being reinforced in classes other than the experimental social studies class, Project Africa assignments, even if better than the usual, can not overcome existing student attitudes.

Another prime objective of the program was to develop a more positive attitude toward social studies among students. The Project clearly failed to realize this objective. The experimental groups scored higher than the control groups less than half the time on the concept SOCIAL STUDIES. If anything can be inferred from the slight difference, it is that exposure to Africa South of the Sahara led to a somewhat more negative attitude toward social studies than is held by students in general.

It is somewhat difficult to account for these responses to SOCIAL STUDIES since the responses to concepts more specifically related to the Project materials were positive. One possible explanation is that the course of study was too long and students became bored with it. Therefore, when they reacted to specific aspects of the program they were positive, but when they considered the total experience of being in a social studies course over the past semester they had a less positive feeling. A second possibility is that, while this study of Africa may have been enjoyable, it could have appeared quite irrelevent to secondary school students--it may have seemed an enjoyable waste of time. The control classes had more flexibility and these teachers may have spent more time making ties between the content being studied and the daily interests of the students. The control teachers may, in fact, have spent more time on content that the students felt more interested in, content such as current events, problems of pollution, and the war in Vietnam. Another possibility is that students perceived the study of Africa South of the Sahara as quite different from their regular social studies courses and, while indicating a liking for this study of Africa, were voicing their dislike of their regular social studies courses.

It was hypothesized that, if the Project Africa materials were enjoyable and worthwhile to the students, this would have some positive effect on the students' attitudes toward school in general. Although it is very difficult to make comparisons between scores on different concepts, the data seem to indicate that if there was such a transfer, it was in a negative direction. Experimental groups scored higher than the control groups nearly 65% of the time for the concept SCHOOL, 53% of the time for LEARNING, and 47% of the time for SOCIAL STUDIES. On the surface it seems unlikely that a relatively less positive attitude toward the specific course, social studies, would carry over as a much more positive attitude toward school in general.

The students were also grouped by race to investigate the possible effects of this study of Africa on black students. It was felt that black students might feel motivated to study about Africa and might therefore get more involved and find it more interesting than other subject matter. Or they migh respond more positively to this study than would white students. Unfortunately the sample did not provide enough racial mix to enable any inferences to be drawn.

There does appear to be a tendency for the blacks in the experimental classes to find social studies less enjoyable and worthwhile than blacks in the control classes. This is the opposite of what had been anticipated. Perhaps this is once again the effect of seemingly irrelevant course material. The control classes may have been studying currect racial problems and the way of life of American blacks today. Such content might motivate black students more than a study of the Kikuyu, the slave trade, and problems of education in Africa.

The individual classroom teacher shows up in the data as playing a significant role in the type of attitudes held by students. The study was designed to control for teacher influence between the experimental and control groups as a whole (this may or may not have been successful) but, when scores for classes in the same school are examined, the teacher's role is evident. This is, of course, predictable and was expected. The interesting question is whether the nature of Africa South of the Sahara with its emphasis on inquiry teaching strategies makes the teacher's influence more or less important.

The concept TEACHER was included in the Semantic Differential because of the expectation that the study of enjoyable and worthwhile materials would show up as a more positive attitude toward the teacher. While this may have been the case, the reverse may also have been true. The response of any class to the concept TEACHER turns out to be a good predictor of that class's responses to the other concepts.

Another indication of the importance of the teacher's attitude and skill comes from the data collected from the three schools where the experimental teachers had worked to develop Project materials. Their experimental classes scored higher than the corresponding control classes 84% of the time compared with 55% for the other experimental classes. Other data indicate that the students in these three experimental classes were superior to those in the control classes and to the students in the other schools. However, the teachers' attitudes and experiences provide the most obvious explanation for the variance.

STUDENT QUESTIONNAIRE

Each student who participated in the testing of Africa South of the Sahara was asked to complete a confidential questionnaire.[5] This questionnaire was designed to collect information about the attitudes and impressions that students developed as a result of this experience and about the way students reacted to specific parts of the program. Approximately 700 students completed the questionnaires.

Two hundred and forty of these questionnaires were selected for detailed analysis. This sample consisted of two classes at each of four different grade levels, selected according to the degree to which the teachers felt comfortable with inquiry, teacher knowledge about Africa and general ability level of the students in the class itself. Thus, teachers best described as "non-inquiry-oriented with academically talented students" and"inquiry oriented with problem learners" were identified for inclusion in the sample. Two of the six teachers in the sample indicated that they had some background in African studies and two said that they were "learning something new with the students."

Results

After examining the student questionnaires included in the sample, it became evident that the students were not answering the questions in any way that lent itself to easy statistical analysis. Responses tended to be highly impressionistic, rambling and frequently bore little relationshop to the questions being asked. Certain patterned responses did, however, emerge. These were categorized primarily as those things which the students considered "most worthwhile" and "least worthwhile." These primary categories were broken down into sub-categories which will be explained in some detail below. Because there were different numbers of students in each grade level sample, the number of responses by categories is expressed in percentages.

Almost all students in the sample listed something in or about the program as "most worthwhile." These responses can be categorized as follows:

TABLE II

COMPONENTS OF PROGRAM LISTED AS MOST WORTHWHILE BY STUDENTS IN SELECTED SAMPLE*

Program Components	7th	9th	10th	11th
1. Content	55	22	68	64
2. "Stereotypes"	19	30	19	20
3. Inquiry Skills	15	33	6	3
4. Inquiry Classroom	5	2	1	0
5. Attitudes	3	13	5	10
6. "Everything"	3	0	1	3

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*Figures represent percentage of students responding.

Content A majority of the students identified some item of content as being "most worthwhile." Such responses as, "the way other people live, " "Changing Africa" and "The history--I didn't know anything about it before." were placed in this category.

Stereotypes This response actually refers to a form of content, but it was sufficiently specific to be a separate category. "I thought that all Africans were cannibals." is an example of one of the grosser responses. More typical is, "I realize now that they have modern cities just like us." where specific content is tied in with a previous misconception.

Inquiry Skills A significant number of students voiced the attitude that how a subject was learned was perhaps of more lasting value than what was learned. An enthusiastic student wrote, "I think that in the future when it comes time to vote I'll be able to look into more than one source before making a decision, and I will probably make a much wiser decision. Not just for voting, but for every decision I make in life." Another student thought "The form of teaching was most important. Facts were unimportant. Whenever facts are pounded into your ear, they are fogotten, but in this course we learned logical reasoning." A tenth grade optimist thought, "It is part of a revoultion in education. We are going from being told to thinking."

Inquiry Classroom The distinction between this category and the preceding one is found in what students felt while engaging in inquiry. "I liked when you give your opinion and then back it up because you are being heard...and receiving the feeling of accomplishments." is the way one seventh grader expressed it.

Attitudes Many students expanded on their awareness of the misleading stereotype of Africa and indicated changes in attitudes. "I changed my feelings toward Africans and Negroes." one tenth grader reported, and an eleventh grader thought that the most important thing he had learned was, "You can't judge people by their skin." Other students expressed changed attitudes toward their own culture: "My culture is not the only one and right way to live." and "I can now study others without an ethnocentric viewpoint." are attitudes expressed by two ninth graders.

"Everything" This category of response was recorded only when students were overly rapturous without being specific. Skepticism prevents this being treated as hard data.

Parts of the program which some students saw as being "most worthwhile, other students saw as being "least worthwhile. In addition, some aspects of the program received quite negative responses. These responses can be categorized as follows:

TABLE III

COMPONENTS OF PROGRAM LISTED AS LEAST WORTHWHILE BY STUDENTS IN SELECTED SAMPLE*

	7th	9th	10th	11th
1. Content	50	32	34	26
2. Inquiry Methods	3	13	20	10
3. Inquiry Classroom	0	00	2	4
4. Homework	29	19	22	7
5. "Too Difficult"	5	0	2	3
6. "Boring" and "Repetitious"	0	5	15	24
7. Everything Worthwhile	13	31	5	26

Content The most frequent category of response referred to broad areas of content: "History--who needs it?" and "Peoples, we will never need to know this." are examples of non-specific areas of content as being listed as least worthwhile. "Zimbabwe wasn't typical." was a complaint of one student, who felt perhaps that the content was loaded in favor of a particular point of view, and the comment that, "The study of events and people is more important than the study of climate." is an example of a frequently articulated feeling that content should be relevant to students' perceived needs and interests.

Inquiry Methods It is an inescapable fact that some students do not, at least initially, respond sympathetically to the use of inquiry strategies in the social studies classroom. "We never had the answer." and "...making an hypothesis and then reviewing it two or three times." reflect two kinds of student complaints. As one eleventh grade student expressed it: "There was a lack of anything solid....I want KNOWLEDGE (student emphasis), not vague impressions and lessons in analysis."

Homework Some students, predictably, didn't like the homework. The list of specific complaints included the reading assignments ("dragged out") and the "4,000 worksheets." A ninth grader voicing the usual student reactions against homework, was sensitive enough to add the reassuring qualification, "Don't worry. I never did it."

"Too Difficult" There were relatively few complaints about the difficulty of the materials. Seventh grade students were quite frank: "Some of the activity sheets I didn't understand." and "I didn't understand the Hausa." One eleventh grade student found the arithematic on one study guide too difficult.

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*Figures are precentage of students responding.

"Boring" and "Repetitious" The repetitious nature and comparative ease of some of the assignments and activities bothered some of the older students. "Its so easy a second or third grader could do it." and "We dragged through the materials much more slowly than was necessary." are comments from this group. Others were more specific: "Changing Africa--it was boring." and "The section on civilizations was repetitious." No reactions within this category were noted by students in the seventh grade sample; the number of students who found things boring or repetitious increased in direct proportion to the grade level.

"Everything Worthwhile" Two percent of the sample found everything worthwhile when they were queried about what they considered "most worthwhile," whereas eighteen percent of the respondents maintained that everything was worthwhile when given the opposite question.

Discussion

Responses in the "most worthwhile" category show no great variation by grade level. As expected, the older students tended to be slightly more content-oriented, and the eleventh graders seemed to be more aware of changes in their attitudes. Yet, these differences can be as easily ascribed to the professional orientations of the teachers, to prior learning or to a host of other variables as they can to studying Africa South of the Sahara. There is the temptation to conclude that as students become older and more "programmed" by conventional teaching strategies they become less susceptable to inquiry-teaching, but the sample is too small and the data too "soft" to warrant any such assumptions. The ninth grade sample shows that these students were more aware of the importance of inquiry skills and conscious of their changed attitudes than students in the other classes. This may be largely attributed to the effect on the sample of one experienced teacher working with a class of problem learners. Other methods of instruction had failed with this class and they seemed to welcome a learning situation that was more "open-ended" and free of conventional text-book assignments. This group and a class of eleventh grade Mexican-Americans expressed the warmest acceptance of the Project Africa materials of all groups within the sample.

Judging from the responses to the "least worthwhile" category, older students tended to be more critical of the content than the younger students, though it is suspected that the ability of the older students to articulate their complaints may be partially responsible for the statistical imbalance. Tenth and eleventh grade students tended with more frequency to find the materials "boring" and "repetitious," although the majority of these responses came from a class of academically talented students taught by a "non-inquiry oriented" teacher. Except in the aforementioned category, variations in teacher profiles did not seem as significant as grade level or the academic background of the students.

It was anticipated that student reactions might vary according to two variables--their grade levels and the expressed reaction of their teachers to the materials. As noted above, some significant differences in student reactions were evidenced in the kinds of things students at different grade levels listed as "most worthwhile" and "least worthwhile." But even more striking was the similarity between student and teacher reactions to the major aspects of the program.

Such similarity is hardly suprising. Student reactions to any kind of learning situation or materials are frequently greatly influenced by the attitudes of their teachers toward them and toward the nature of the learning experience. Such attitudes often produce very pronounced "echo effects." The perceptions of the teachers become, to a large extent, the perceptions of the students. And the feelings of the students also become the feelings of their teachers.

This seems to have been the case in this field trial. Anecdotal data from teacher questionnaires and other sources were assembled to form a profile for each of the teachers whose classes were selected for analysis here. These teachers differed considerably in their orientation toward and familiarity with inquiry-teaching and their knowledge about Africa. The abilities of their students and the grade levels they taught were also different. These are shown in Table IV.

TABLE IV

	Teacher Profile	Grade Level	Ability Level
1.	Inquiry-oriented. Knowledgeable about Africa.	11	Slightly below average
2.	Non-Inquiry oriented. Not knowledgeable about Africa.	11	Above average to academically talented
3.	Aware of inquiry. Minimum of knowledge about Africa.	10	Average
4.	Non-inquiry oriented. Not knowledgeable about Africa.	10	Average
5.	Inquiry-oriented, Knowledgeable about Africa.	9	Slightly below average ("problem learners")
6.	Not inquiry-oriented. Minimum of knowledge about Africa.	9	Average
7.	Aware of inquiry. Not knowledgeable about Africa.	7	Average
8.	Non-inquiry oriented. Not knowledgeable about Africa.	7	Average

Two variations of this "echo effect" seem to emerge from the evaluations by teachers and students. First, the degree of previous familiarity with inquiry-oriented learning materials affected the degree of success that teachers felt they had with Africa South of the Sahara. Secondly, the degree of success or frustration felt by students seems to be related to the attitudes of the teachers. In a very real sense, the personality and orientation of the teacher is difficult to separate from the way in which students reacted to the program.

The parallels between teacher and student perceptions can be striking. One ninth grade teacher, experienced in inquiry-teaching, who judged the program's effectiveness on the basis of the development of student "skills, knowledge and self-esteem," was delighted by Africa South of the Sahara; "I plan to adopt the format for may other classes." Of his students, fourteen (of twenty-six) listed in anonymous questionnaires some skill--such as "to find and evaluate more than one source before making a judgement"--as the One Most Important Thing Learned during the semester. In classes where the teacher was more concerned with content, students tended to stress either some bit of information that they found particularly interesting or, more frequently, that the curriculum materials dispelled the "Tarzan" stereotype. A teacher of an eleventh grade class felt the materials were "too simple." She wanted "more depth...more sources of data" and she lectured to her classes at the beginning of each unit. Not suprisingly, her students tended to find specific content items most worthwhile, and their responses to the student questionnaire indicate that they encountered frustrations in what must have been to them an unfamiliar method of instruction. It was a student in this class who was cited above as stating: "I want KNOWLEDGE, not vague impressions and lessons in analysis." A teacher who had a favorite unit would find her students sharing her preferences and one who objected to the use of fiction as a source of data could rely on his students voicing the same complaint.

Students were generally enthusiastic about their learning experiences with Africa South of the Sahara. Only two students in the sample were frankly critical of the entire program, and several students indicated that they had to look hard for something to criticize ("The tapes--this was the only thing I could find fault with."). That significant numbers of students identified the practice of inquiry skills, changed attitudes and perceptions about Africa as the "most worthwhile thing" they got from this program is a fair indication that some of its major objectives may have been met.

CONCLUSIONS

Taken together, the results from the Semantic Differential and from the Student Questionnaire point to some definite conclusions. The most clear of these is that students who studied Africa South of the Sahara believed what they learned much about Africa and that waht they learned led them to see Africa in a more positive light. The responses to the concept AFRICA and the remarks about stereotypes and worthwhile content in the questionnaire support this conclusion.

A second definite conclusion is that the homework assignments did not live up to the expectations of the Project Africa staff. The negative responses to the concept HOMEWORK and the inclusion of homework as "least worthwhile" by a large number of students suggest that the students did not find most of these assignments enjoyable or particularly valuable.

It is fairly evident that the teacher is a major factor in the success or failure of this program, despite the fact that the teaching strategies were highly structured in an attempt to minimize the effect of the individual teacher. The "echo effect" that appears in the responses to the questionnaire was not reflected in the data from the Semantic Differential. However, the Semantic Differential does show the effect of the teacher. Therefore, while it is not possible to say much about which particular teacher qualities play major roles in the outcomes, it can be concluded that the teacher does make a significant difference.

There is some evidence that these materials produce a more positive attitude among students in junior high school (grades 7-9) than among senior high students. The questionnaire shows this clearly and there is some support for the notion in the Semantic Differential data. This conclusion must be very tentative, however, especially since the research design did not take grade level into account.

A final conclusion is that, while specific parts of *Africa South of the Sahara* are liked by students, the program as a whole does not produce a strong positive affect. The responses to the concept SOCIAL STUDIES show this, as do several of the catagories included by the students as "least worthwhile." Specific comments recorded in the questionnaires suggest that the content and the approach of the program become repetitious after awhile. Students may get tired of Africa and/or of inquiry. These comments also suggest that perhaps some of the content is not seen as "relevant" by the students.

In sum, *Africa South of the Sahara* appears to be an excellent *source* of materials and teaching strategies from which individual teachers can select those appropriate to themselves and their students. Imposition of this program, *in toto*, upon any given group of students may likely accomplish only a minimum of the program's affective objectives. However, wise selection and careful adaptation can lead to a course of study which will meet most of these objectives for almost any group of students.

NOTES

1. Robert Mager. *Developing Attitude Toward Learning*. Palo Alto: Fearon Publishers, 1968, p. 3.

2. *Ibid*., p. 15.

3. See Appendix C for a copy of the instrument.

4. A complete description of the research design included in Part IV of this report, "Cognitive and Affective Outcomes."

5. See Appendix D for a copy of this instrument.

IV

COGNITIVE AND AFFECTIVE OUTCOMES

A program of study--whether it be a unit or an entire curriculum--may be evaluated in a number of ways. Regardless of the degree to which it is liked or enjoyed by those using it, however, the real measure of such a program is the degree to which the objectives set for it are achieved. This is as true for Africa South of the Sahara: An Inquiry Program for Grades 7-10 as it is for any other curriculum material.

Did Africa South of the Sahara: An Inquiry Program for Grades 7-10 "work" in the classroom? That is, did the materials and strategies which comprise this program achieve the objectives set for them by Project Africa? More specifically, did these materials result in students:

1. Learning knowledge about Africa?
2. Developing or increasing their abilities to use the skills of reflective inquiry?
3. Developing more positive attitudes toward Africa?
4. Developing more positive attitudes toward school in general and social studies in particular?

And secondly, did this program meet these objectives better than the usual course of study for which it was being substituted? It was the purpose of this phase of Project Africa's evaluation to find answers to these basic questions.

Hypotheses

The questions to be investigated in this evaluation were stated as the following hypotheses:

1. There is no significant difference between the scores of students studying Africa South of the Sahara and those of students studying their usual course dealing with Africa on an instrument measuring knowledge about Africa.
2. There is no significant difference between the scores of students studying Africa South of the Sahara and those of students studying their usual course dealing with Africa on instruments measuring skills of reflective inquiry.

3. There is no significant difference between the scores of students studying Africa South of the Sahara and those of students studying their usual course dealing with Africa on an instrument measuring attitudes toward Africa and various aspects of social studies instruction.

In addition to evaluating the gross effect of this curriculum program, the Project attempted to determine what effects, if any, several variables might have on the outcomes of the program. It was felt that with certain types of students, or in certain circumstances, the program might be more successful than in others. Therefore, the effects of the following were investigated:

Sex	Sex is often found to be a significant cause of variance in achievement among students of this age group.
Race	Because of the subject matter of this course of study, it was felt that perhaps black students would find study of this program more relevant than would white students and that therefore the program might prove more successful among black students.
Intelligence	There is a strong feeling among classroom teachers that "inquiry teaching" may be successful with bright students, but that it will not work well with average and below-average students.
Teacher Preparation	Since most teachers have little knowledge about Africa and little understanding of the methodology of inquiry teaching, it was felt that this program might be successful only with those teachers who have received some special preparation.

Two other variables that were considered and then dropped from this analysis were "type of school" and "section of the country." An earlier study suggested that neither of these variables had any effect on knowledge about Africa, however.* Thus these findings, as well as the difficulties involved in making any meaningful breakdown of schools by type and area, led to a decision to omit them from this study.

Instruments

Knowledge about Africa was measured by an instrument developed by the staff of Project Africa. This instrument, Africa Knowledge Test, was a 48-item multiple choice test made up of subtests of twelve items each. These four subtests dealt with the following knowledge about Africa:

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*Barry K. Beyer and E. Perry Hicks, Images of Africa: A Report on What American Secondary School Students Know and Believe About Africa South of the Sahara. Pittsburgh: Project Africa/ Carnegie-Mellon University, 1968. (see appendix)

Subtest One - Knowledge of physical geography.

Subtest Two - Knowledge of history before the Colonial Period.

Subtest Three - Knowledge of indigenous culture and society.

Subtest Four - Knowledge of colonial and current history.

Most of the items in this instrument were taken from an instrument developed by Project Africa in 1967 for a nationwide survey of what secondary school students knew about Africa. Therefore data from approximately 1500 students was available for each of these items.

Two forms of the Africa Knowledge Test were devised. Both forms contained identical questions. The Kuder-Richardson reliability for the Africa Knowledge Test was 73% for the pretest and 88% for the posttest.

A 1967 Project Africa survey identified five examples of stereotyped misinformation held by American secondary school students. Items representing these stereotypes were included in the subtests so that there would be some measure of the extent to which Africa South of the Sahara: An Inquiry Program for Grades 7-10 would result in a reduction of specific, widely held misconceptions.

Skills of reflective inquiry were measured by two instruments. The first of these, Inquiry Skills Test, was developed by the Project Africa staff to assess those specific skills of reflective inquiry that this curriculum program had been designed to improve. The basic instructional model for the program was one that has been described many times, in slightly varying forms, since John Dewey explicated it in How We Think (1910). The model involves skills of:

1. Defining a problem
2. Developing an hypothesis
3. Testing the hypothesis
4. Drawing a conclusion

These skills further specified and stated in terms of the Taxonomy of Educational Objectives. See Appendix E for a summary of this inquiry model. Items were written to correspond to each of the steps in this model and twelve of the items were selected for the test instrument. The Inquiry Skills Test was administered directly following the Africa Knowledge Test as a fifth twelve-item subtest.

The test of knowledge and the test of inquiry skills were combined into one instrument, Africa Achievement Test, for administration and scoring. This combined instrument reflects overall achievement on the cognitive objectives of Africa South of the Sahara. The Africa Achievement Test is included as Appendix F.

Because of the weaknesses inherent in a non-standarized measure of anything as complex as intellectual skills, it was decided to administer a standarized test as well. The Watson-Glaser Critical Thinking Appraisal, forms YM and ZM, was chosen. While it was not expected that the scores on the total instrument would reflect small changes in the specific inquiry skills Africa South of the Sahara was designed to increase, it was hoped that scores on some of the separate subtests might. This 100 item instrument is made up of the following:

Subtest One - Inference

Subtest Two - Recognition of Assumptions

Subtest Three - Deduction

Subtest Four - Interpretation

Subtest Five - Evaluation of Arguments

Affective objectives were measured by a semantic differential instrument Africa Attitudes Survey. Nine concepts were included in the instrument. Two of these, SCHOOL and LEARNING, related to a general attitude toward school. Four others, SOCIAL STUDIES, TEACHER, HOMEWORK, and MAPS-FILMSTRIPS-READINGS, related more directly to the social studies classroom. The final three, AFRICA, ASIA, and SOUTH AMERICA, related to attitudes toward three parts of the non-western world. While this study was primarily concerned with changes in attitude toward Africa, the other two items were included to provide benchmarks for comparison. Each of these nine concepts was described by seven pairs of adjectives selected for Osgood's list of evaluative adjective pairs. Although this meant that only the evaluative dimension of the student's semantic space was being assessed, it was this dimension which was most relevant to Africa South of the Shara. The Africa Attitudes Survey is included as Appendix D.

Intelligence was measured by the Otis Quick-Scoring Mental Abilities Test: Intermediate Level Form J. This instrument was chosen because it is easily administered and scored, and because it provides a reasonably accurate assessment of mental ability among populations in the average intelligence range.

Research Design

Due to the impossibility of randomly assigning students to treatment groups, it was necessary in this study to use a pretest-posttest design. Three groups of students were included, the experimental groups and two control goups. The experimental group and one control group studied Africa South of the Sahara and the other control group studied the normal course of study in which Africa was included. Table I is a schematic representation of the design.

Table I

RESEARCH DESIGN

Experimental Group	Pretest	Africa South of the Sahara	Posttest
Control Group One	Pretest	Regular course of study	Posttest
Control Group Two	Pretest	Africa South of the Sahara	Posttest

Students in the Experimental Group and Control Group One were from matched classes. That is, each school that had an experimental group also had a control group at the same grade level and of the same general ability which had been studying the same social studies program up to the beginning of the treatment.

This matching of classes was done to control for general school climate and for local events which might occur during the treatment and which might affect student knowledge about and attitudes toward Africa. It was hoped that the experimental treatment could be assigned randomly to one of the two classes in each school. However, in most cases it was necessary to accept a volunteer or principal-assigned teacher to conduct the experiemntal class and to use the remaining class for the control.

The teachers of the experimental classes and those of Control Group One received no special introduction to Africa South of the Sahara. They were not especially knowledgeable about Africa or about the methodology of inquiry-teaching. As far as possible, they were representative of the average teacher who, because of curricular requirements, is faced with the prospect of teaching something about Africa to an average social studies class.

The teachers in Control Group Two were different from those in the other two groups. They had more knowledge about Africa than is true for most teachers. In addition, they had an intellectual and emotional commitment to Africa--they had consciously chosen Africa as an area of special interest. Finally, and for this research most important, they were quite familiar with Africa South of the Sahara. For six weeks during the summer of 1968 they had been members of the Project Africa staff working to develop the final version of the course. One of them had also been part of the staff the previous summer and had taught a preliminary version of the program during the spring of 1968. Consequently, these teachers knew the objectives of the program as well as how it was designed to be taught. This group was included to provide information about the need for some type of preparation for teachers before they attempt to use a program of study whose subject matter and methodology are generally unfamiliar.

Sample

At the beginning of the study, classes for the Experimental Group and for Control Group One had been set up in 19 schools in different geographical locations throughout the United States. The classes included grades 7, 9, 10, and 11. During the course of the study two of the schools were dropped. In one of these the experimental teacher left the system just as the program began and by the time a permanent replacement could be found there was not enough time left in the semester to complete the program. The second school dropped was in a highly transient area and only five of the students who took the pretest were still in class at the time of the posttest. Since this meant that the students in this class had been exposed to varying amounts of the treatment and in a highly unstable situation, it was decided not to include them in the study results.

Three schools were included in Control Group Two. These included grades 7 and 8 in three midwestern states. One additional school was excluded from this group because the course was an elective and included students from grades 10-12.

Table II shows the distribution of classes included in the study. (See Appendix G for the names of the participating schools.)

Table II

EXPERIMENTAL AND CONTROL CLASSES

Group	State	Grade	Number of Students
Experimental Group and Control Group One Classes	California	9	27-E 24-C
	Nevada	7	25-E 0-C
	Oregon	9	27-E 24-C
	Michigan	9	29-E 30-C
	Ohio	10	27-E 25-C
	Michigan	7	18-E 21-C
	Iowa	11	27-E 23-C
	South Carolina	7	26-E 27-C
	Florida	10	10-E 19-C
	South Carolina	7	22-E 27-C
	Vermont	9	23-E 18-C
	Pennsylvania	10	30-E 32-C
	New York	9	31-E 26-C
	New York	9	26-E 25-C
	Maryland	10	34-E 27-C
	Pennsylvania	10	25-E 25-C
	New Hamphsire	9	18-E 14-C
Control Group Two Classes	Illinois	7	13
	Ohio	7	26
	Minnesota	8	26

It was anticipated that this mix of schools would provide a wide enough range of students to allow for male-female comparisons and for black-white comparisons. Unfortunately, the number of black students turned out to be limited. One school was all black and two were integrated (at least 25% black). Consequently, most of the data reported is results from white students.

The cooperating schools were specifically instructed to provide experimental and control classes which were of average intellectual ability. As a check, the Otis Quick-Scoring Mental Abilities Test, Form J, was administered to all experimental classes and to the Control Group Two classes. The results suggest that the experimental classes are in the average to above average range. Control Group Two included two above average classes and one far below average class. The mean raw score for the Experimental Group was 55 which is equivilant to an I.Q. of 104 for 14½ year olds. The mean raw score for Control Group Two was 49 which is equivilant to an I.Q. of 106 for 13 year olds.

Procedures

Each of the schools participating in the study scheduled instruction about Africa to begin on or about March 1. This meant that the Experimental classes and Control Group Two classes began studying Africa South of the Sahara and the Control Group One classes began studying whatever was included relative to Africa in their normal course of study about this date.

Before instruction began, pretests were administered to each class. These included the Watson-Glaser Critical Thinking Appraisal, Form YM, and the Africa Achievement Test, Form A. In addition, the Otis Quick Scoring Mental Abilities Test was administered to the Experimental classes and the Control Group Two classes.

In most instances, the pretests were administered by classroom teachers. Records of the amount of time allowed for each test and of any interruptions or other events which might influence the results were sent to the Project Africa staff along with the answer sheets. Each teacher also prepared a class roster with the name, sex, and race of each student indicated. Racial groups were designated as "Black," "White," and "Other." The "Other" designation was to include Mexican-American, American Indians, Puerto Ricans, and Orientals.

At the end of the fifteen-week program of study, the posttests were administered. These included the Watson-Glaser Critical Thinking Appraisal, Form ZM, the Africa Achievement Test, Form B, and the Africa Attitudes Survey. The tests were administered by the same teachers who had administered the pretests, and the students were given th same length of time to complete each of these as they had been given for the pretests. The answer sheets and reports of unusual occurances were returned to Project Africa.

Throughout the fifteen week experimental period, the Experimental Group and the Control Group Two classes studied exclusively about Africa. The Control Group One classes spent varying amounts of time on Africa and then went on to study the next topic in the regular syllabus.

Analysis of Data

Only those students who had been present throughout the experimental period and had completed all test instruments administered to their classes are included in the final analysis. While this may result in the elimination of some essential data, it does insure that all posttest results include the same pretest and treatment effects.

In analysing this data, the group, school, sex, race, and all pre- and posttest scores for each student were punched on data cards. It was evident that the racial designation "Other" had been used very infrequently and so it was grouped with "White."

The basic unit of analysis was the school-sex-race group rather than the individual student. Taking the individual student as the unit of analysis when working with intact classes will often provide an N which is artificially large. The more conservative approach of using group mean scores seemed to be more appropriate for this study. For example, the Experimental Group yielded useable scores from 194 white males. However, since only 16 schools are represented in this number, mean scores for each of the school-sex-race groups were computed and these scores were used in the analysis with an N of 16.

Where both pretests and posttests had been administered, the pretest scores were analyzed by analysis of variance between the experimental and control groups to determine if the groups were, in fact, similar before the treatment. The posttest scores were then analyzed by analysis of covariance between the experimental and control groups using the pretest scores as the covariate. For the Africa Attitudes Survey which was administered as a posttest only, the results were analysized by analysis of variance between the experimental and control groups. Where it seemed appropriate, additional analyses were peformed between experimental males and females and between experimental blacks and whites. Table III summarizes the analyses that were performed.

Table III

SUMMARY OF ANALYSES

White male -	Experimental	X	Control One
White female -	Experimental	X	Control One
Black male -	Experimental	X	Control One
Black female -	Experimental	X	Control One
Experimental white -	Male	X	Female
Experimental black -	Male	X	Female
Experimental male -	White	X	Black
Experimental female -	White	X	Black
White male and female -	Experimental	X	Control Two

Results

Tables IV - VI summarize the results of the pre- and posttests. Table IV gives the mean scores on the Watson-Glaser Critical Thinking Appraisal for each sex-race group across all treatments. Table V gives the mean scores on the Africa Achievement Test for each sex-race group across all treatments. The first four subtests make up the Africa Knowledge Test and the fifth subtest is the Inquiry Skills Test. Table VI gives the mean scores on the Africa Attitudes Survey for each group across all treatments. In all cases, N is the number of schools which yielded data for a specific sex-race group.

To check the assumption that the Experimental Group and Control Group One were equal before the treatment, the pretest scores for these groups were compared using analysis of variance. Table VII gives the results for the Watson-Glaser total score. Table VIII gives the results for the Africa Achievement Test total score. The only subtest which generated a significant F was Subtest Three of the Africa Achievement Test, Knowledge of Indigenous Culture and Society. For Black males the control group scored significantly higher (.05) than the experimental group. The mean scores for this group, taken from Table V, were 3.47 for the Experimental Group and 4.95 for the Control Group. The possible score on this subtest was 12.

To test the hypotheses concerning the effect on knowledge and inquiry skills of studying Africa South of the Sahara, analysis of covariances was performed on the posttest scores using the pretest scores as the covariate. Tables IX - XII give these results for the Watson-Glaser Critical Thinking Appraisal for male whites, female whites, male blacks, and female blacks respectively. Tables XIII-XVI give corresponding results for the Africa Achievement Test. To test the hypotheses concerning the affective objectives of the program, analysis of variance was performed comparing the scores on the Africa Attitudes Survey of the Experimental Group with those of Control Group One. These analyses are shown in Tables XVII-XX.

To test the hypotheses that special preparation and motivation of a teacher working with the program would have an effect on both the cognitive and affective outcomes of the instruction, the scores of the students in the Experimental Group were compared with those from Control Group Two on the Africa Achievement Test and the Africa Attitudes Survey. The scores of males and females were combined for these analyses. Since there were no blacks in Control Group Two, only the scores of white males and females in the Experimental Group were used. These scores are given in Tables XXI - XXII.

To check for the possible effects that sex might have on achievement in studying Africa South of the Sahara, the Experimental Group scores of the white males were compared with those of the white females on the Africa Achievement Test. The results of this analysis of covariance are shown in Table XXIII.

The effects of race on achievement were checked by comparing the Experimental Group scores of the white males with those of the black males and of the white females with the black females on the Africa Achievement Test. The results of these analyses are shown in Tables XXIV - XXV.

To determine to what extent, if any, the study of Africa South of the Sahara had reduced common misconceptions about Africa the responses to specific items on the Africa Achievement Test were analysed. Items representing misconceptions were those to which 40% of the students in a 1967 survey had chosen a specific incorrect answer. For example, one of the items in that survey was:

Timbuctu was important for:

A. its diamond mines.

B. its cool, refreshing climate.

C. its university.

D. its oil refinery.

Most students chose response A rather than the correct responce C. Therefore, they were said to have the misconception that: "Timbuctu was important for its diamond mines rather than for its university." Table XXVI compares the posttest responses to these misconception items of students in the Experimental Group with their pretest responses, the responses of students in the 1967 survey, and with the pre- and posttest responses of students in Control Group One.

The tables displaying the results as described here follow:

Table IV

WATSON-GLASER CRITICAL THINKING MEAN SCORES

	Experimental				Control One				Control Two	
	male white N=15	female white N=15	male black N=3	female black N=3	male white N=14	female white N=14	male black N=2	female black N=2	male white N=3	female white N=3
Subtest One--Inference										
Pretest	9.06	8.89	6.44	6.93	8.64	8.84	7.50	7.48	7.38	8.19
Posttest	7.78	7.27	6.44	5.73	7.43	7.42	4.14	5.18	6.30	6.77
Subtest Two--Recognition of Assumptions										
Pretest	9.48	9.71	7.58	7.13	9.79	9.73	8.11	9.10	8.61	9.97
Posttest	10.28	10.39	7.86	8.20	10.25	10.41	6.52	8.92	10.19	10.65
Subtest Three--Deduction										
Pretest	15.87	16.26	12.86	14.83	15.51	16.36	14.08	13.51	13.42	16.62
Posttest	15.24	14.56	14.70	13.30	14.96	14.93	10.04	12.48	14.29	14.25
Subtest Four--Interpretation										
Pretest	15.16	15.22	13.50	14.07	14.38	15.37	12.08	14.19	14.31	16.33
Posttest	13.82	13.76	9.64	11.37	13.32	13.98	9.03	11.88	13.17	14.36
Subtest Five--Evaluation of Arguments										
Pretest	6.94	7.63	7.58	5.27	7.31	7.88	7.00	8.42	7.51	8.26
Posttest	8.82	8.52	7.00	6.47	7.44	7.80	5.33	8.19	10.22	8.42
Total Score										
Pretest	56.51	57.71	47.97	48.23	55.34	56.86	49.40	52.70	51.41	59.35
Posttest	55.21	54.49	45.03	45.07	53.40	54.29	35.07	46.64	50.83	55.11

Table V

AFRICA ACHIEVEMENT TEST MEAN SCORES

	Experimental				Control One				Control Two	
	male white N=16	female white N=16	male black N=3	female black N=3	male white N=15	female white N=15	male black N=2	female black N=2	male white N=3	female white N=3
Knowledge of physical geography										
Pretest	5.00	4.22	4.83	4.07	4.87	4.15	3.91	4.06	5.10	4.75
Posttest	7.47	6.70	6.89	6.10	7.44	6.42	6.38	7.08	7.52	7.44
Knowledge of history before colonial period										
Pretest	2.56	2.61	2.39	2.07	2.71	2.46	3.13	1.83	2.54	2.76
Posttest	5.49	5.44	4.13	4.53	4.07	3.50	3.73	4.00	5.88	5.05
Knowledge of indigenous culture and society										
Pretest	4.74	4.93	3.47	4.40	4.79	4.96	4.95	4.19	4.54	4.31
Posttest	7.29	7.51	4.75	6.37	5.86	5.83	5.64	5.78	6.69	6.42
Knowledge of colonial and current history										
Pretest	4.31	4.20	2.92	4.63	4.40	4.14	3.52	4.47	3.89	3.68
Posttest	5.87	5.54	3.64	4.97	5.68	5.33	4.64	5.50	5.25	5.09
Inquiry skills test										
Pretest	5.38	5.63	2.44	4.20	5.44	5.43	4.36	4.17	4.84	5.13
Posttest	6.82	6.66	4.00	3.93	6.06	6.06	3.02	4.81	5.79	6.44
Total Score										
Pretest	21.99	21.56	16.06	19.37	22.21	21.14	19.86	18.72	19.91	20.60
Posttest	32.63	31.81	23.42	25.90	29.06	27.04	23.41	26.92	30.67	29.46

Table VI
AFRICA ATTITUDES SURVEY MEAN SCORES (Posttest Only)

	Experimental				Control One				Control Two	
	male white N=14	female white N=14	male black N=3	female black N=3	male white N=15	female white N=15	male black N=2	female black N=2	male white N=3	female white N=3
School	35.80	36.30	38.94	36.48	34.57	35.51	41.33	41.17	34.85	47.91
Learning	38.10	38.60	39.75	38.73	37.85	37.42	42.06	41.72	38.54	40.50
Social Studies	33.62	34.91	38.94	36.55	33.68	32.95	41.89	38.95	38.90	38.35
Teacher	34.56	35.74	37.31	32.45	34.19	34.70	42.22	40.92	38.02	42.33
Homework	26.11	27.73	34.19	27.75	26.76	25.21	34.72	34.69	25.40	30.77
Maps, Filmstrips, and Readings	37.75	38.00	42.31	35.18	37.58	36.36	42.89	35.50	40.55	40.90
Africa	32.22	34.54	37.97	33.97	29.55	32.30	39.11	35.72	41.10	40.60
Asia	30.38	32.05	33.92	27.38	29.66	31.76	36.17	34.81	33.99	35.64
South America	32.75	33.54	36.89	34.40	31.53	32.08	35.33	34.57	35.97	37.93

Table VII

ANALYSIS OF VARIANCE FOR WATSON-GLASER PRETEST (TOTAL SCORE) BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ONE

Sex-Race	S.S.	N.D.F.	M.S.	F.	Sig.
Male white	9.80	1	9.80	.120	N.S.
	2200.60	27	81.50		
	2210.40	28			
Female white	5.32	1	5.32		
	1351.96	27	50.07	.106	N.S.
	1357.28	28			
Male black	2.46	1	2.46	.049	N.S.
	149.94	3	49.98		
	1 2.40	4			
Female black	23.92	1	23.92	1.050	N.S.
	68.33	3	22.78		
	92.25	4			

Table VIII

ANALYSIS OF VARIANCE FOR AFRICA ACHIEVEMENT TEST PRETEST (TOTAL SCORE) BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ONE

Sex-Race	S.S.	N.D.F.	M.S.	F.	Sig.
Male white	.37	1	.37	.023	N.S.
	476.22	29	16.42		
	476.59	30			
Female white	1.41	1	1.41	.143	N.S.
	285.40	29	9.84		
	286.81	30			
Male black	17.34	1	17.34	1.96	N.S.
	26.50	3	8.83		
	43.85	4			
Female black	.50	1	.50	.067	N.S.
	22.44	3	7.48		
	22.94	4			

Table IX

ANALYSIS OF COVARIANCE FOR WATSON-GLASER POSTTEST SCORES OF MALE WHITES BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ONE USING PRETEST SCORES AS COVARIATE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
One--Inference	.04	1	.04	.032	N.S.
	31.05	26	1.19		
	31.08	27			
Two--Recognition of Assumptions	.32	1	.32	.648	N.S.
	12.86	26	.49		
	13.18	27			
Three--Deduction	.02	1	.02	.017	N.S.
	32.69	26	1.26		
	32.71	27			
Four--Interpretation	.36	1	.36	.127	N.S.
	74.35	26	2.86		
	74.71	27			
Five--Evaluation of Arguments	16.95	1	16.95	5.783	.05
	76.22	26	2.93		
	93.18	27			
Total Score	9.61	1	9.61	.490	N.S.
	510.30	26	19.63		
	519.91	27			

Table X

ANALYSIS OF COVARIANCE FOR WATSON-GLASER POSTTEST SCORES OF FEMALE WHITES BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ONE USING PRETEST SCORES AS COVARIATE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
One--Inference	.26 24.45 24.70	1 26 27	.26 .94	.274	N.S.
Two--Recognition of Assumptions	.00 25.40 25.40	1 26 27	.00 .98	.001	N.S.
Three--Deduction	.68 33.27 33.94	1 26 27	.68 1.28	.528	N.S.
Four--Interpretation	.24 33.39 33.63	1 26 27	.24 1.28	.189	N.S.
Five--Evaluation of Arguments	4.13 125.23 129.36	1 26 27	4.13 4.82	.857	N.S.
Total Score	.50 465.08 465.58	1 26 27	.50 17.89	.028	N.S.

Table XI

ANALYSIS OF COVARIANCE FOR WATSON-GLASER POSTTEST SCORES OF MALE BLACKS BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ONE USING PRETEST SCORES AS COVARIATE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
One--Inference	5.53	1	5.53	1.889	N.S.
	5.85	2	2.93		
	11.38	3			
Two--Recognition of Assumptions	2.21	1	2.21	.5423	N.S.
	8.16	2	4.08		
	10.37	3			
Three--Deduction	15.30	1	15.30	1.045	N.S.
	29.29	2	14.65		
	44.60	3			
Four--Interpretation	.22	1	.22	.131	N.S.
	3.39	2	1.70		
	3.61	3			
Five--Evaluation of Arguments	2.48	1	2.48	1.922	N.S.
	2.58	2	1.29		
	5.05	3			
Total Score	128.34	1	128.34	1.487	N.S.
	172.63	2	86.32		
	300.97	3			

Table XII

ANALYSIS OF COVARIANCE FOR WATSON-GLASER POSTTEST SCORES OF FEMALE BLACKS BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ONE USING PRETEST SCORES AS COVARIATE

Subtest	S.S	N.D.F.	M.S.	F	Sig.
One--Inference	.90 5.38 6.28	1 2 3	.90 2.69	.334	N.S.
Two--Recognition of Assumptions	.04 .29 .32	1 2 3	.04 .14	.252	N.S.
Three--Deduction	.66 1.30 1.96	1 2 3	.66 .65	1.012	N.S.
Four--Interpretation	.21 1.32 1.53	1 2 3	.21 .66	.312	N.S.
Five--Evaluation of Arguments	.00 21.70 21.70	1 2 3	.00 10.85	.000	N.S.
Total Score	.56 25.77 26.33	1 2 3	.56 12.89	.043	N.S.

Table XIII

ANALYSIS OF COVARIANCE FOR AFRICA ACHIEVEMENT TEST POSTTEST SCORES OF MALE WHITES BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ONE USING PRETEST SCORES AS COVARIATE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
Knowledge of Physical Geography	.05	1	.05	.060	N.S.
	21.14	28	.76		
	21.19	29			
Knowledge of History Before the Colonial Period	18.47	1	18.47	13.900	.01
	37.21	28	1.33		
	55.68	29			
Knowledge of Indigenous Culture and Society	17.05	1	17.05	20.038	.01
	23.82	28	.85		
	40.87	29			
Knowledge of Colonial and Current History	.61	1	.61	.506	N.S.
	33.57	28	1.20		
	34.17	29			
Inquiry Skills Test	5.27	1	5.27	7.971	.01
	18.51	28	.66		
	23.78	29			
Total Score	113.69	1	113.69	12.029	.01
	264.65	28	9.45		
	378.34	29			

Table XIV

ANALYSIS OF COVARIANCE FOR AFRICA ACHIEVEMENT TEST POSTTEST SCORES OF FEMALE WHITES BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP USING PRETEST SCORES AS COVARIATE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
Knowledge of Physical Geography	.33 30.91 31.24	1 28 29	.33 1.10	.295	N.S.
Knowledge of History before the Colonial Period	23.74 44.75 68.49	1 28 29	23.74 1.60	14.854	.01
Knowledge of Indigenous Culture and Society	22.40 41.00 63.39	1 28 29	22.40 1.46	15.296	.01
Knowledge of Colonial and Current History	.26 24.04 24.30	1 28 29	.26 .86	.302	N.S.
Inquiry Skills Test	1.33 23.25 24.58	1 28 29	1.33 .83	1.601	N.S.
Total Score	133.28 331.46 464.75	1 28 29	133.28 11.84	11.259	.01

Table XV

ANALYSIS OF COVARIANCE FOR AFRICA ACHIEVEMENT TEST POSTTEST SCORES OF MALE BLACKS BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP USING PRETEST SCORES AS COVARIATE

	S.S.	N.D.F.	M.S.	F	Sig.
Knowledge of Physical	.77	1	.77	1.852	N.S.
Geography	.83	2	.41		
	1.59	3			
Knowledge of History	1.29	1	1.29	.462	N.S.
before the	5.57	2	2.78		
Colonial Period	6.85	3			
Knowledge of Indigenous	3.39	1	3.39	1.201	N.S.
Culture and Society	5.64	2	2.82		
	9.03	3			
Knowledge of Colonial	.00	1	.00	.002	N.S.
and Current History	3.25	2	1.63		
	3.26	3			
Inquiry Skills Test	8.99	1	8.99	3.057	N.S.
	5.88	2	2.94		
	14.87	3			
Total Score	21.06	1	21.06	.326	N.S.
	129.11	2	64.55		
	150.17	3			

Table XVI

ANALYSIS OF COVARIANCE FOR AFRICA ACHIEVEMENT TEST POSTTEST SCORES OF FEMALE BLACKS BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP USING PRETEST SCORES AS COVARIATE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
Knowledge of Physical Geography	1.16	1	1.16	.313	N.S.
	7.41	2	3.70		
	8.57	3			
Knowledge of History before the Colonial Period	.08	1	.08	.032	N.S.
	5.36	2	2.68		
	5.45	3			
Knowledge of Indigenous Culture and Society	.07	1	.07	.335	N.S.
	.43	2	.21		
	.50	3			
Knowledge of Colonial and Current History	.32	1	.32	.423	N.S.
	1.49	2	.75		
	1.81	3			
Inquiry Skills Test	.96	1	.96	.731	N.S.
	2.62	2	1.31		
	3.57	3			
Total Score	4.89	1	4.89	.306	N.S.
	31.92	2	15.96		
	36.81	3			

Table XVII

ANALYSIS OF VARIANCE FOR AFRICA ATTITUDES SURVEY POSTTEST SCORES FOR MALE WHITES BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ONE

Subtest	S.S.	N.D.F.	M.S.	F.	Sig.
School	10.87	1	10.87	1.654	N.S.
	177.52	27	6.58		
	188.40	28			
Learning	.45	1	.45	.108	N.S.
	113.53	27	4.20		
	113.98	28			
Social Studies	.03	1	.03	.002	N.S.
	375.47	27	13.91		
	375.50	28			
Teacher	.98	1	.98	.064	N.S.
	411.89	27	15.26		
	412.87	28			
Homework	3.01	1	3.01	.204	N.S.
	399.11	27	14.78		
	402.13	28			
Maps, Filmstrips, and Readings	.22	1	.22	.017	N.S.
	345.13	27	12.78		
	345.35	28			
Africa	51.75	1	51.75	2.113	N.S.
	661.37	27	24.50		
	713.11	28			
Asia	3.78	1	3.78	.206	N.S.
	495.44	27	18.35		
	499.22	28			
South America	10.80	1	10.80	.618	N.S.
	472.02	27	17.48		
	482.82	28			

Table XVIII

ANALYSIS OF VARIANCE FOR AFRICA ATTITUDES SURVEY POSTTEST SCORES FOR FEMALE WHITES BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ONE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
School	4.53	1	4.53	1.367	N.S.
	89.36	27	3.31		
	93.89	28			
Learning	10.00	1	10.00	1.985	N.S.
	135.99	27	5.04		
	145.99	28			
Social Studies	27.69	1	27.69	1.612	N.S.
	463.80	27	17.18		
	491.49	28			
Teacher	7.96	1	7.96	.76	N.S.
	282.53	27	10.46		
	290.49	28			
Homework	46.00	1	46.00	2.75	N.S.
	451.53	27	16.72		
	497.53	28			
Maps, Filmstrips, and Readings	19.62	1	19.62	2.451	N.S.
	216.20	27	8.01		
	235.82	28			
Africa	36.22	1	36.22	1.550	N.S.
	630.99	27	23.37		
	667.21	28			
Asia	.60	1	.60	.039	N.S.
	419.79	27	15.55		
	420.39	28			
South America	15.45	1	15.45	.541	N.S.
	771.69	27	28.58		
	787.14	28			

Table XIX

ANALYSIS OF VARIANCE FOR AFRICA ATTITUDES SURVEY POSTTEST SCORES FOR MALE BLACKS BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ONE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
School	6.85	1	6.85	.342	N.S.
	60.02	3	20.01		
	66.87	4			
Learning	6.38	1	6.38	.457	N.S.
	41.88	3	13.96		
	48.26	4			
Social Studies	10.40	1	10.40	.295	N.S.
	105.78	3	35.26		
	116.19	4			
Teacher	29.01	1	29.01	1.081	N.S.
	80.54	3	26.85		
	109.55	4			
Homework	.33	1	.33	.013	N.S.
	79.07	3	26.36		
	79.40	4			
Maps, Filmstrips, and Readings	.41	1	.41	.014	N.S.
	89.04	3	29.68		
	89.45	4			
Africa	1.56	1	1.56	.065	N.S.
	71.49	3	23.83		
	73.05	4			
Asia	6.08	1	6.08	.239	N.S.
	76.24	3	25.41		
	82.31	4			
South America	2.90	1	2.90	.135	N.S.
	64.74	3	21.58		
	67.64	4			

Table XX

ANALYSIS OF VARIANCE FOR AFRICA ATTITUDES SURVEY POSTTEST SCORES . FOR FEMALE BLACKS BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP ONE

Subtest	S.S	N.D.F.	M.S.	F	Sig.
School	26.32	1	26.32	.546	N.S.
	144.76	3	48.25		
	171.08	4			
Learning	10.69	1	10.69	.310	N.S.
	103.44	3	34.48		
	114.13	4			
Social Studies	6.90	1	6.90	.160	N.S.
	129.30	3	43.10		
	136.21	4			
Teacher	86.02	1	86.02	1.445	N.S.
	178.63	3	59.54		
	264.65	4			
Homework	57.83	1	57.83	1.726	N.S.
	100.55	3	33.52		
	158.38	4			
Maps, Filmstrips, and Readings	.12	1	.12	.001	N.S.
	290.35	3	96.78		
	290.47	4			
Africa	3.68	1	3.68	.081	N.S.
	137.21	3	45.74		
	140.89				
Asia	66.26	1	66.26	3.183	N.S.
	62.46	3	20.82		
	128.72	4			
South America	.04	1	.04	.001	N.S.
	184.33	3	61.44		
	184.36	4			

Table XXI

ANALYSIS OF COVARIANCE FOR AFRICA ACHIEVEMENT TEST POSTTEST SCORES FOR MALE AND FEMALE WHITES BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP TWO USING PRETEST SCORES AS COVARIATE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
Knowledge of Physical Geography	.90 29.37 30.26	1 35 36	.90 .84	1.070	N.S.
Knowledge of History before the Colonial Period	1.51 50.68 52.19	1 35 36	1.51 1.45	1.043	N.S.
Knowledge of Indigenous Culture and Society	.16 33.91 34.07	1 35 36	.16 .97	.163	N.S.
Knowledge of Colonial and Current History	.03 43.61 43.64	1 35 36	.03 1.25	.023	N.S.
Inquiry Skills Test	.12 22.47 22.59	1 35 36	.12 .64	.180	N.S.
Total Score	2.51 298.22 300.73	1 35 36	2.51 8.52	.295	N.S.

Table XXII

ANALYSIS OF VARIANCE FOR AFRICA ATTITUDES SURVEY POSTTEST SCORES FOR MALE AND FEMALE WHITES BETWEEN EXPERIMENTAL GROUP AND CONTROL GROUP TWO

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
School	3.45 234.12 237.54	1 32 33	3.43 7.32	.469	N.S.
Learning	6.81 150.11 156.92	1 35 36	6.81 4.69	1.452	N.S.
Social Studies	93.94 506.01 599.95	1 32 33	93.94 15.81	5.940	.05
Teacher	124.65 435.26 559.91	1 32 33	124.65 13.60	9.164	.01
Homework	13.68 537.17 550.85	1 32 33	13.68 16.79	.815	N.S.
Maps, Filmstrips, and Readings	40.16 332.18 372.34	1 32 33	40.16 10.78	3.870	N.S.
Africa	275.62 646.67 922.29	1 32 33	275.62 20.21	13.639	.01
Asia	83.00 432.37 515.37	1 32 33	83.00 13.51	6.143	.05
South America	71.35 471.23 542.58	1 32 33	71.35 14.73	4.850	.05

Table XXIII

ANALYSIS OF COVARIANCE FOR AFRICA ACHIEVEMENT TEST POSTTEST FOR EXPERIMENTAL GROUP BETWEEN MALE WHITES AND FEMALE WHITES USING PRETEST SCORES AS COVARIATE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
Knowledge of Physical Geography	.08 17.11 17.19	1 29 30	.08 .59	.140	N.S.
Knowledge of History before the Colonial Period	.13 28.90 29.02	1 29 30	.13 1.00	.129	N.S.
Knowledge of Indigenous Culture and Society	.00 25.98 25.98	1 29 30	.00 .90	.002	N.S.
Knowledge of Colonial and Current History	.44 37.54 37.98	1 29 30	.44 1.29	.339	N.S.
Inquiry Skills Test	1.16 17.66 18.82	1 29 30	1.16 .61	1.900	N.S.
Total Score	.71 213.70 214.41	1 29 30	.71 7.37	.097	N.S.

Table XXIV

ANALYSIS OF COVARIANCE FOR AFRICA ACHIEVEMENT TEST POSTTEST SCORES FOR EXPERIMENTAL GROUP BETWEEN MALE WHITES AND MALE BLACKS USING PRETEST SCORES AS COVARIATE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
Knowledge of Physical Geography	.54	1	.54	.617	N.S.
	13.97	16	.87		
	14.51	17			
Knowledge of History before the Colonial Period	.00	1	.00	.004	N.S.
	16.80	16	1.05		
	16.80	17			
Knowledge of Indigenous Culture and Society	.45	1	.45	.455	N.S.
	15.93	16	1.00		
	16.39	17			
Knowledge of Colonial and Current History	.98	1	.98	1.20	N.S.
	13.02	16	.81		
	14.00	17			
Inquiry Skills Test	7.05	1	7.05	10.36	.01
	10.88	16	.68		
	17.93	17			
Total Score	22.39	1	22.39	3.039	N.S.
	117.87	16	7.37		
	140.26	17			

Table XXV

ANALYSIS OF COVARIANCE FOR AFRICA ACHIEVEMENT TEST POSTTEST SCORES FOR EXPERIMENTAL GROUP BETWEEN FEMALE WHITES AND FEMALE BLACKS USING PRETEST SCORES AS COVAIRATE

Subtest	S.S.	N.D.F.	M.S.	F	Sig.
Knowledge of Physical Geography	.44 7.33 7.76	1 16 17	.44 .46	.953	N.S.
Knowledge of History before the Colonial Period	3.16 20.04 23.21	1 16 17	3.16 1.25	2.525	N.S.
Knowledge of Indigenous Culture and Society	4.35 20.09 24.44	1 16 17	4.35 1.26	3.46	N.S.
Knowledge of Colonial and Current History	.75 25.66 26.39	1 16 17	.73 1.60	.456	N.S.
Inquiry Skills Test	.06 11.99 12.05	1 16 17	.06 .75	.083	N.S.
Total Score	7.72 211.52 219.24	1 16 17	7.72 13.22	.584	N.S.

Table XXVI

MISCONCEPTIONS ABOUT AFRICA HELD BY SECONDARY SCHOOL STUDENTS AS REFLECTED IN SPECIFIC ITEMS ON THE AFRICA ACHIEVEMENT TEST.

Misconceptions

1. Large wild animals--such as lions, elephants, and giraffes--would more likely be found deep in the African jungles than roaming through African parks and game reserve.

2. Most of Africa south of the Sahara is covered by jungles rather than by grasslands.

3. Traditional religions of Africa south of the Sahara stress a belief in the necessity of human sacrifice to please the gods when they are angry rather than a belief in a Supreme Force or Being who created the universe.

4. Timbuctu was important for its diamond mines rather than for its university.

5. When European explorers first came to Africa they found no towns or cities, only small villages of huts, rather than many strong kingdoms.

Misconception	1967 Survey		Experimental Group		Control Group One	
	Grade 7	Grade 12	Pretest	Posttest	Pretest	Posttest
#1	56.7%	----	43.4%	28.4%	42.8%	32.0%
#2	55.1%	56.1%	52.8%	5.4%	57.2%	22.2%
#3	50.5%	63.4%	62.4%	21.6%	68.8%	44.8%
#4	48.5%	63.5%	53.4%	56.3%	51.8%	48.5%
#5	46.7%	55.5%	54.2%	30.5%	51.8%	36.6%

Conclusions

The study of Africa South of the Sahara results in students having more knowledge about Africa than they get from a normal course of study. This is based on the scores achieved on the Africa Achievement Test. On the total instrument, the Experimental Group scored significantly higher than Control Group One at the .01 level. Looking at the results from the separate subtests, it can be seen that most of the difference is accounted for by knowledge of history before the colonial period and by knowledge of indigenous culture and society. Knowledge of physical geography and knowledge of colonial and current history were not significantly different between the two groups.

Further evidence that the Experimental Group increased its knowledge about Africa also comes from the analysis of the common misconceptions. For four of the five items the Experimental Group's posttest scores were better than its pretest scores and better than the posttest scores of Control Group One.

The use of this program of study may lead to some increase in very specific skills of reflective inquiry. On the Inquiry Skills Test, the males in the Experimental Group scored significantly higher than those in Control Group One but there was no significant difference between the females in the two groups. Also, there were no significant differences between the groups on the more general Watson-Glaser Critical Thinking Appraisal.

When used by ordinary teachers, Africa South of the Sahara does not result in any more positive attitudes toward school, social studies, or Africa than does the normal course of study. The results do suggest the possibility of more positive attitudes among the Experimental Group students toward some concepts, particularly "Africa," but the differences were not significant.

No conclusions can be drawn about the effects of race on the study of Africa. The number of blacks in the sample was too small.

Sex appears to make no difference in the results obtained from this study. There were no significant differences between males and females on any of the variables tested.

The preparation of the teacher does not result in any significantly greater cognitive learning when students study Africa South of the Sahara. The students of the Control Group Two teachers who had special preparation and motivation did not score significantly higher on the Africa Achievement Test than the students of the Experimental Group teachers who had no special preparation.

However, the variable of teacher preparation is an important factor where affective objectives are concerned. The Control Group Two students had significantly more positive scores on the Africa Attitudes

Survey for five of the nine concepts than did the Experimental Group students. The largest F was obtained for "Africa" with the next largest for "Teacher."

Since the students in the Experimental Group did in fact learn a good deal about Africa from this study, and since these students represented average intelligence students, it may be concluded that inquiry teaching techniques will work with average students.

In sum, Africa South of the Sahara does work in the classroom--at least partially. Students who use this program of study will increase their knowledge of Africa, especially in areas such as early history and indigenous culture which have traditionally been ignored in American schools. This increase in knowledge will occur whether the teacher in the classroom has any special preparation in the methodology of inquiry teaching or not and whether the teacher has special preparation in the subject matter or not.

This research has demonstrated further that the methodology of inquiry teaching will work with average students even where the teacher is unfamiliar with this style of teaching. Inquiry teaching will work, that is, when the teacher is supplied with the necessary materials and with carefully structured lessons.

And finally, this research appears to support the notion that the primary factor which influences students' attitudes is the classroom teacher's attitudes. A teacher can teach information whether he enjoys it or not. However, in order to develop positive attitudes among his students--toward school in general and his subject in particular--he will have to be sincerely enthusiastic about and committed to whatever it is he is teaching.

It would appear that, if Africa South of the Sahara is to change student attitudes, it will have to do so by convincing teachers that the study of Africa is important and can be interesting and enjoyable.

APPENDIX

A. Materials Comprising Africa South of the Sahara: An Inquiry Program for Grades 7-10

B. Model of Questionnaire Completed by Evaluating Teachers

C. Reactionnaire Completed by Evaluating Students

D. Africa Attitudes Survey

E. The Process of Inquiry: A Taxonomy

F. Africa Achievement Test

G. Cooperating Schools

APPENDIX A

MATERIALS COMPRISING *AFRICA SOUTH OF THE SAHARA: AN INQUIRY PROGRAM FOR GRADES 7-10*

1. *Africa South of the Sahara: Rationale and Introduction* (teaching guide and student materials) 1969 (ED 032-324) microfiche $0.50

2. *Peoples of Africa - Topic I* (teaching guide and student materials) 1969 (ED 032-325) microfiche $1.00

3. *History of Africa - Topic II* (teaching guide and student materials) 1969 (ED 032-326) microfiche $1.00

4. *Changing Africa - Topic III* (teaching guide and student materials) 1969 (ED 032-327) microfiche $0.50

These materials are available directly from:

ERIC Document Reproduction Service
The National Cash Register Company
4936 Fairmont Avenue
Bethesda, Maryland 20014

APPENDIX B - MODEL TEACHER EVALUATION FORM

EVALUATION

TEACHER ______________________________ SCHOOL ____________________________

GRADE LEVEL __________________________ ABILITY LEVEL ____________________

This is a summary evaluation of the TOPIC you have just completed teaching. Answer the following questions in as much detail as possible--refer to the teaching guide and to any evaluative notes you have made in the guide or elsewhere.

I. GENERAL REACTION

1. What did you like least about this TOPIC?

2. What did you like most about this TOPIC?

II. TEACHING GUIDE

1. THE TEACHING GUIDE CONTAINED DAILY LESSON PLANS AS WELL AS SPECIAL MATERIALS FOR THE TEACHER.

   a) Was the format useful? _______ b) What changes should be made?

c) Which objectives should be omitted, added or changed? (Note these by crossing out, correcting, or revising the objectives in the Teaching Guide.)

d) Was the background information for the teacher adequate? ________
If not, explain:

e) What additional teacher information was needed?

f) Were the key questions in each daily plan explicit enough to evoke the desired responses? ________
(If not, revise, alter, add or eliminate appropriate questions in the Teaching Guide.)

g) What changes, if any, should be made in the arrangement of activities and the strategy for this entire TOPIC and each individual unit?
(Append additional pages, if necessary.)

III. LEARNING MATERIALS

MATERIAL	STRONG POINTS	WEAKNESSES	SUGGESTED IMPROVEMENTS

IV. LEARNING TECHNIQUES

1. Which particular techniques (pairing, grouping, transparency, tape, lecture, etc.) seemed most useful? Why?

2. Which were least useful? Why?

3. What methods did you use to evaluate the students' achievement on this topic? Attach a copy of your quizzes and/or unit exams to this report.

V. List with page numbers (those words and terms that students found difficult:

VI. Additional comments, criticisms or suggestions on materials, strategy, techniques, guides or anything else (append additional pages if necessary):

APPENDIX C

STUDENT FINAL EVALUATION

SCHOOL ______________________________________ GRADE __________

DIRECTIONS: Answer the following questions in as much detail as you wish. Attach additional pages if necessary. Be as frank as you can--this will in no way affect your grades in this course.

1. What is the one most important thing you have learned in this course?

2. Why couldn't this program on Africa be taught in a totalitarian country (a dictatorship)?

3. What in this program of study on Africa did you find most worthwhile? Why?

4. What in this program of study on Africa did you find least worthwhile? Why?

APPENDIX D - AFRICA ATTITUDES SURVEY

Name ______________________________ School ______________________________

This survey is being made to get some information about how students react to certain words connected with school. The study is being conducted by a university and will in no way affect your grade in this course or your progress in school. In addition, there are no right or wrong responses. Therefore, please give as honest an opinion as you possibly can.

You will be given nine words to react to. Beneath each word you will find seven pairs of adjectives which describe each word. Between each pair of adjectives are seven spaces which represent varying closeness of agreement with one or the other adjective in the pair. You are to decide which space best describes how you feel about the main word and then make an X in that space.

It may help to think of the 7 spaces as having the following meanings.

good	almost always	usually	more often then not	even	more often then not	usually	almost always	bad

The adjectives "good-bad" will change, but the spaces will have the same general meaning. Be sure to mark one space and only one space for each pair of adjectives.

AUTOMOBILE

good ______:______:______:______:______:______:______: bad

valuable ______:______:______:______:______:______:______: worthless

pleasant ______:______:______:______:______:______:______: unpleasant

If you feel that AUTOMOBILE is almost always good, you would place an X in the space right next to the word "good". If you feel that AUTOMOBILE is almost always bad, your X would go in the space right next to "bad". If you feel that AUTOMOBILE is just about even between valuable and worthless or if you don't know which it is, you would put an X in the middle space. Where would you put an X if you feel that AUTOMOBILE is usually pleasant or usually unpleasant?

In the following example, a student felt that AUTOMOBILE was bad more often than not, almost always valuable, and just about even between pleasant and unpleasant.

AUTOMOBILE

good ______:______:______:______:___X___:______:______: bad

valuable ___X___:______:______:______:______:______:______: worthless

pleasant ______:______:______:___X___:______:______:______: unpleasant

When you are told to begin, turn the page and begin marking the 9 words that are listed inside. Be sure to mark each of the pairs of adjectives for each of the 9 words.

SCHOOL

good ______:______:______:______:______:______:______: bad

fair ______:______:______:______:______:______:______: unfair

meaningful ______:______:______:______:______:______:______: meaningless

pleasant ______:______:______:______:______:______:______: unpleasant

successful ______:______:______:______:______:______:______: unsuccessful

valuable ______:______:______:______:______:______:______: worthless

nice ______:______:______:______:______:______:______: awful

LEARNING

good ______:______:______:______:______:______:______: bad

fair ______:______:______:______:______:______:______: unfair

meaningful ______:______:______:______:______:______:______: meaningless

pleasant ______:______:______:______:______:______:______: unpleasant

successful ______:______:______:______:______:______:______: unsuccessful

valuable ______:______:______:______:______:______:______: worthless

nice ______:______:______:______:______:______:______: awful

SOCIAL STUDIES

good ______:______:______:______:______:______:______: bad

fair ______:______:______:______:______:______:______: unfair

meaningful ______:______:______:______:______:______:______: meaningless

pleasant ______:______:______:______:______:______:______: unpleasant

successful ______:______:______:______:______:______:______: unsuccessful

valuable ______:______:______:______:______:______:______: worthless

nice ______:______:______:______:______:______:______: awful

TEACHER

good _____ : _____ : _____ : _____ : _____ : _____ : _____ : bad

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ : unfair

meaningful _____ : _____ : _____ : _____ : _____ : _____ : _____ : meaningless

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ : unpleasant

successful _____ : _____ : _____ : _____ : _____ : _____ : _____ : unsuccessful

valuable _____ : _____ : _____ : _____ : _____ : _____ : _____ : worthless

nice _____ : _____ : _____ : _____ : _____ : _____ : _____ : awful

HOMEWORK

good _____ : _____ : _____ : _____ : _____ : _____ : _____ : bad

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ : unfair

meaningful _____ : _____ : _____ : _____ : _____ : _____ : _____ : meaningless

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ : unpleasant

successful _____ : _____ : _____ : _____ : _____ : _____ : _____ : unsuccessful

valuable _____ : _____ : _____ : _____ : _____ : _____ : _____ : worthless

nice _____ : _____ : _____ : _____ : _____ : _____ : _____ : awful

MAPS, FILMSTRIPS, AND READINGS

good _____ : _____ : _____ : _____ : _____ : _____ : _____ : bad

fair _____ : _____ : _____ : _____ : _____ : _____ : _____ : unfair

meaningful _____ : _____ : _____ : _____ : _____ : _____ : _____ : meaningless

pleasant _____ : _____ : _____ : _____ : _____ : _____ : _____ : unpleasant

successful _____ : _____ : _____ : _____ : _____ : _____ : _____ : unsuccessful

valuable _____ : _____ : _____ : _____ : _____ : _____ : _____ : worthless

nice _____ : _____ : _____ : _____ : _____ : _____ : _____ : awful

AFRICA

good ____:____:____:____:____:____:____: bad

fair ____:____:____:____:____:____:____: unfair

meaningful ____:____:____:____:____:____:____: meaningless

pleasant ____:____:____:____:____:____:____: unpleasant

successful ____:____:____:____:____:____:____: unsuccessful

valuable ____:____:____:____:____:____:____: worthless

nice ____:____:____:____:____:____:____: awful

ASIA

good ____:____:____:____:____:____:____: bad

fair ____:____:____:____:____:____:____: unfair

meaningful ____:____:____:____:____:____:____: meaningless

pleasant ____:____:____:____:____:____:____: unpleasant

successful ____:____:____:____:____:____:____: unsuccessful

valuable ____:____:____:____:____:____:____: worthless

nice ____:____:____:____:____:____:____: awful

SOUTH AMERICA

good ____:____:____:____:____:____:____: bad

fair ____:____:____:____:____:____:____: unfair

meaningful ____:____:____:____:____:____:____: meaningless

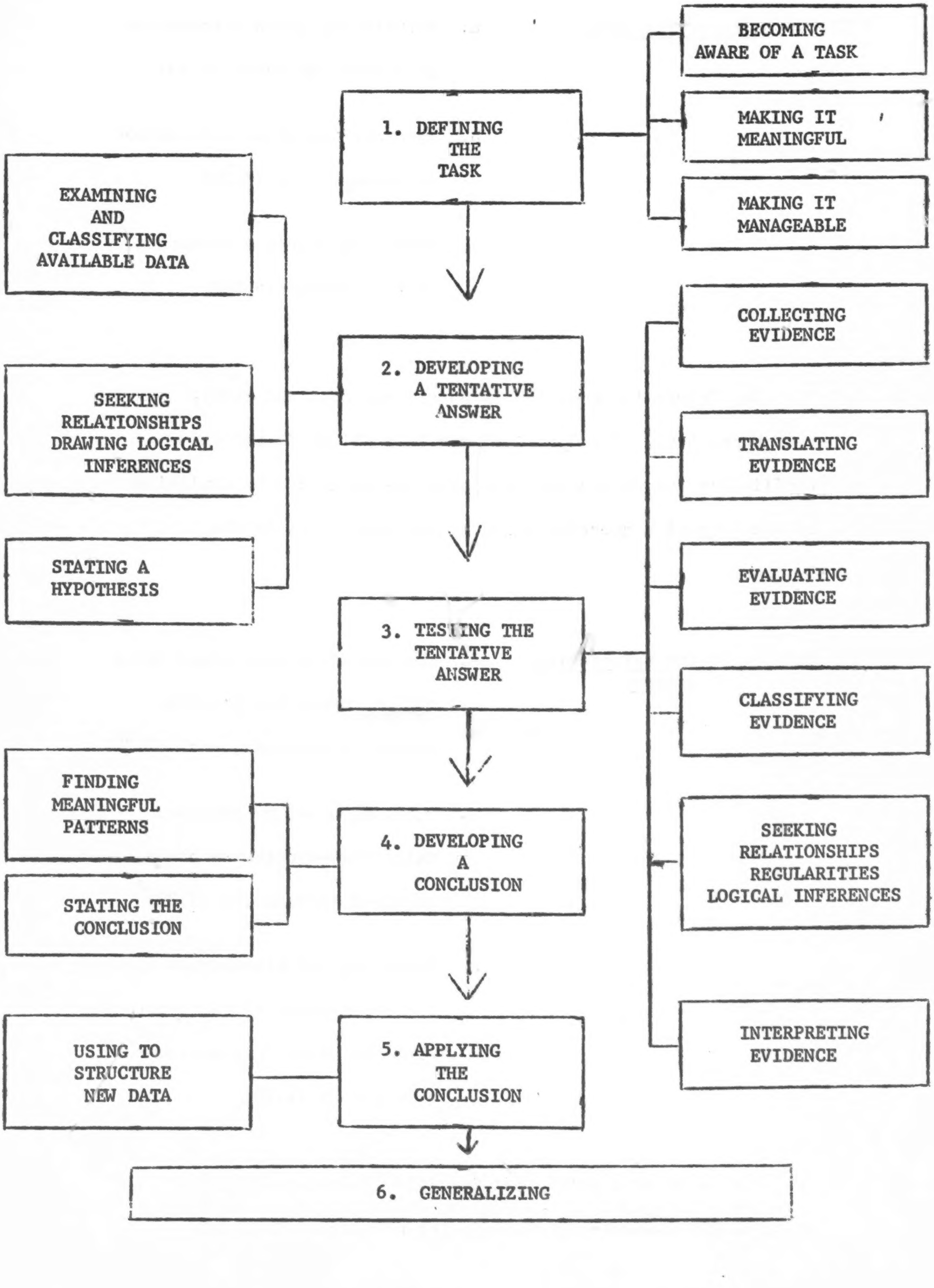
pleasant ____:____:____:____:____:____:____: unpleasant

successful ____:____:____:____:____:____:____: unsuccessful

valuable ____:____:____:____:____:____:____: worthless

nice ____:____:____:____:____:____:____: awful

APPENDIX E - THE PROCESS OF INQUIRY


1. DEFINING THE TASK
BECOMING AWARE OF A TASK
MAKING IT MEANINGFUL
MAKING IT MANAGEABLE
2. DEVELOPING A TENTATIVE ANSWER
EXAMINING AND CLASSIFYING AVAILABLE DATA
SEEKING RELATIONSHIPS DRAWING LOGICAL INFERENCES
STATING A HYPOTHESIS
3. TESTING THE TENTATIVE ANSWER
COLLECTING EVIDENCE
TRANSLATING EVIDENCE
EVALUATING EVIDENCE
CLASSIFYING EVIDENCE
SEEKING RELATIONSHIPS REGULARITIES LOGICAL INFERENCES
INTERPRETING EVIDENCE
4. DEVELOPING A CONCLUSION
FINDING MEANINGFUL PATTERNS
STATING THE CONCLUSION
5. APPLYING THE CONCLUSION
USING TO STRUCTURE NEW DATA
6. GENERALIZING

APPENDIX E - THE PROCESS OF INQUIRY: A TAXONOMY

STEP 1. Defining the Task

a. Translating given information into familiar terms (2.10)

b. Interpreting given information in summary form (2.20)

c. Producing a unique statement of the problem (5.10)

The "given information" is partly new data and partly remembered data. The "problem" may be implicit in the data--conflicting interpretations for example--or it can be explicit in the form of a question asked by the teacher or by the learner.

STEP 2. Developing a Tentative Answer

a. Extrapolating from given information to predict possible patterns, outcomes, etc. (2.30)

b. Deriving a set of abstract relations--hypotheses based on given information (5.30)*

C. Analysing relationships--checking the consistency of the hypotheses with the given information and assumptions (4.20)

*It is at this point that intuitive thinking--hunches or intuitive guesses--enters into the process of inquiry.

STEP 3. Testing the Tentative Answer

a. Applying the tentative solution to hypothetical situations in order to predict probable consequences (3.00)

b. Developing a plan of operation for empirically assessing the tentative solution (5.20)

c. Collecting additional data*

d. Analysing the additional data and selecting that which is relevant to the tentative solution (4.10)

e. Evaluating the tentative solution in light of the additional data (6.20)

---

*The collecting of additional data is not an intellectual skill as much as it is a mechanical procedure based on a knowledge of methodology and appropriate sources for dealing with a particular problem. (1.25)

STEP 4. Developing a Conclusion

a. Analysing the results of testing the tentative solution in order to recognize basic principles (4.30)

b. Developing an abstract statement which accounts for both the specifics and the principles embodied in the data (5.30)

APPENDIX F - ACHIEVEMENT TEST

PLEASE DO NOT OPEN THIS TEST BOOKLET UNTIL DIRECTED TO DO SO:

This test is being given to students in junior and senior high schools throughout the United States. It is part of an experimental study to determine how much information and what type of information about Africa south of the Sahara is known by American students today.

DIRECTIONS: You will have 30 minutes in which to complete this test. You are not expected to know the answers to all of the items. Attempt as many of the items as possible in the time allowed. It is suggested that you do the easy items first, and then come back to the harder items.

1. Use a SOFT LEAD PENCIL (#2) only. (DO NOT USE AN IBM ELECTROGRAPHIC PENCIL)

2. Your answers to the questions in this test are to be recorded on the separate ANSWER SHEET. Be sure you have filled in the information called for on the answer sheet as follows:

   a) At the top of the answer sheet, PRINT your name and your grade, indicate your sex, your date of birth, today's date, the name of your school, and the city in which your school is located.

   b) PRINT the name of your social studies teacher in the blank marked INSTRUCTOR and the name of this test, AFRICA SOUTH OF THE SAHARA, in the appropriate blank.

   c) DO NOT mark any of the spaces in the box titled IDENTIFICATION NUMBER.

3. Read carefully the directions on the answer sheet. In marking your answer sheet, use a SOFT LEAD PENCIL ONLY. Be careful to notice that the blanks for answering questions are arranged ACROSS the page: item 1, 2, 3, and 4 on the first line from the left to right; items 5, 6, 7, and 8 on the next line, etc. When you have chosen the response you think is correct, BLACKEN the appropriate blank neatly and fully. If you change your mind about an answer, erase your first mark completely.

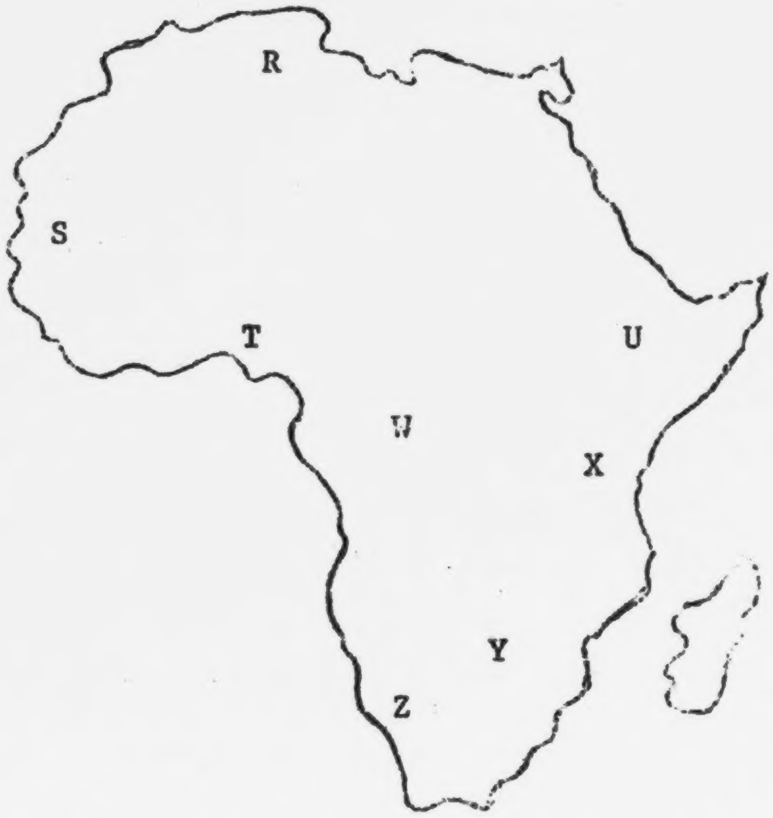
4. Make no stray marks on the front of the answer sheet. Do not wrinkle, fold, or tear the answer sheet.

5. The score on the test will be determined by the number of items answered correctly. Even if you are not sure of an answer, indicate the response which you think best answers the question.

PROJECT AFRICA
Baker Hall
Carnegie-Mellon University
Pittsburgh, Pennsylvania 15213

3

DIRECTIONS: Questions 1-6 refer to the map of Africa shown below. For each question choose the letter from the map which best completes the statement or answers the question and mark the corresponding letter on the answer sheet as directed.



1. Which of the following areas is not considered to be a part of Africa south of the Sahara?
   1. R only
   2. R, S, U only
   3. R, S, T only
   4. R, S, T, U

2. The equator passes through:
   1. R
   2. S
   3. W
   4. Z

3. Victoria Falls on the Zambezi River is closest to:
   1. T
   2. U
   3. W
   4. Y

4. The country of Nigeria is closest to:
   1. T
   2. U
   3. X
   4. Y

5. Of the following, the area with the least annual rainfall is:
   1. T
   2. U
   3. W
   4. Z

6. Of the following, the area with the highest elevation is:
   1. T
   2. W
   3. U
   4. Z

7. The west coast of Africa touches the:

   1. Indian Ocean.
   2. Arctic Ocean.
   3. Pacific Ocean.
   4. Atlantic Ocean.

8. The distance from the northern tip of Africa to the southern tip is approximately:

   1. 250 miles.
   2. 5,000 miles.
   3. 14,000 miles.
   4. 210,000 miles.

9. Africa is:

   1. a large country.
   2. a continent.
   3. an island.
   4. a region in the southern part of Asia.

10. Large wild animals--such as lions, elephants, and giraffes--would most likely be found:

    1. deep in the African jungles.
    2. roaming through African parks and game reserves.
    3. scattered throughout all parts of Africa.
    4. near the edges of populated areas in Africa.

11. Most of Africa south of the Sahara is covered by:

    1. jungles.
    2. sandy deserts.
    3. wooded grasslands.
    4. swamps.

12. The Great Rift is a term referring to:

    1. a long deep valley in eastern Africa.
    2. the stretch of ocean between the mainland and Madagascar.
    3. the area where the largest diamond mine in the world was dug.
    4. a broad expanse of desert which stretches over 1500 miles across western Africa.

13. Dr. Louis Leakey discovered the remains of the earliest toolmaker so far known:

    1. along the shores of Lake Chad.
    2. at the Olduvai gorge in Tanzania.
    3. deep in the Kalahari Desert.
    4. near Timbuctu in the western Sudan.

14. A handicap to the study of the history of Africa south of the Sahara is the:

    1. general absence of written records.
    2. inability of scholars to decipher many African languages.
    3. inaccessibility of many places of historical interest.
    4. destruction in inter-tribal war of many valuable documents.

15. The wealth of ancient Ghana (c. 700 A.D.) was derived primarily from trade in:

    1. ground nuts.
    2. diamonds.
    3. palm oil.
    4. gold.

16. Which of the following existed in Africa?

    1. Songhai Empire
    2. Mongol Empire
    3. Gupta Empire
    4. Aztec Empire

17. Timbuctu was important for:

    1. its diamond mines.
    2. its cool, refreshing climate.
    3. its university.
    4. its oil refinery.

18. Much of our knowledge about African Sudanic kingdoms is from accounts written by:

    1. African scribes and chronoiclers.
    2. European adventurers.
    3. Roman conquerors and explorers.
    4. Arab travelers, merchants and scholars.

19. Which of the following has been most influenced by Arab culture?

    1. Nigeria
    2. Swaziland
    3. Zanzibar
    4. Ethiopia

20. Zimbabwe is the name given to:

    1. a sacred river in West Africa.
    2. stone ruins in Rhodesia.
    3. a mythical kingdom near the source of the Nile.
    4. the long horn used as a musical instrument in the Congo Region.

21. The Golden Stool was the symbol of political and spiritual leadership among the:

    1. Masai.
    2. Swazi.
    3. Ibo.
    4. Ashanti.

22. Prior to 1600 Africa south of the Sahara had:

    1. been oriented more toward southern hemisphere regions than toward those in the northern hemisphere.
    2. fairly continuous cultural and commercial interchange with peoples in the Mediterranean world and Asia.
    3. extensive commercial contact with the inhabitants of western Europe.
    4. been completely isolated from the rest of the world.

23. When the European explorers first came to Africa:

    1. the natives worshipped them.
    2. they found no towns or cities, only small villages of huts.
    3. they found many strong kingdoms.
    4. they brought with them the first forms of political organization that Africa had known.

24. Slavery in Africa south of the Sahara:

1. existed prior to contact with the Arabs or the Europeans.
2. was an institution brought in by the Arabs.
3. developed when Europeans settled along the coast.
4. originated with the demand for slaves for use in the Americas.

25. The traditional music of Africa south of the Sahara is usually:

1. quiet and sad.
2. about everyday life.
3. sung by women.
4. written down by tribal scribes.

26. The music of Africa south of the Sahara is most famous for its:

1. rhythm.
2. melody.
3. harmony.
4. dissonance.

27. Examples of traditional sculptures in Africa south of the Sahara include all of the following except:

1. bronze heads.
2. ceremonial masks.
3. wooden figures.
4. marble statues.

28. Traditional religions of Africa south of the Sahara stress a belief:

1. in the necessity of human sacrifice to please the gods when they are hungry.
2. in Heaven as reward and Hell as punishment.
3. in a Supreme Force or Being who created the universe.
4. in the Ten Commandments.

29. Most people in Africa south of the Sahara earn their living working as:

1. hunters.
2. factory workers.
3. fishermen.
4. farmers.

30. The reign of the Kabaka is most closely associated with which of the following?

1. Rwanda
2. Buganda
3. Ankole
4. Bunyoro

31. The Bushmen rock paintings which are found over much of south and southeastern Africa suggest that the Bushmen:

1. travel a lot.
2. are a larger group than was at first realized.
3. have forgotten the art of rock painting.
4. formerly occupied a wide area.

32. Which of the following countries is composed largely of Yoruba, Hausa, and Ibo peoples?

1. Ivory Coast
2. Rhodesia
3. Nigeria
4. Somali

33. Which one of the following groups is most affected by its physical environment?

1. Hausa
2. !Kung Bushmen
3. Mech'a Galla
4. Kikuyu

34. The way in which Africans have responded to Islam, Christianity, western political ideas such as socialism and democracy, and education demonstrates that they:

1. usually adapt foreign ideas to their own purposes.
2. generally accept without modification foreign ideas that are imposed upon them.
3. are incapable of doing anything of their own.
4. are willing and able to adjust to foreign ways only with extensive guidance.

35. Which of the following statements is least true of Africa south of the Sahara?

1. Africans face problems similar to those faced by peoples in other parts of the world.
2. African peoples react differently to their various physical environments.
3. Peoples and cultures are similar over most of Africa south of the Sahara.
4. Most Africans are adapting to modern life.

36. Most Africans today are:

1. more conscious of local loyalties than of national affiliation.
2. staunch nationalists who have great pride in their new national identity.
3. anxious to avoid involvement in international affairs in order to ensure their continued freedom.
4. desirous of uniting all nations south of the Sahara into a single federation.

37. Mungo Park, Sir Richard Burton and Henry Stanley:

1. came from the United States.
2. served as Christian missionaries.
3. were explorers.
4. died in Africa.

38. Most of the slaves that were brought to the Americas:

1. were captured by American slave raiders.
2. were bought from Arabs who captured them in the interior and brought them to the coast.
3. were victims of European military conquest.
4. were bought by white slave traders from African kings and slave merchants.

39. Effective European control over African territories lasted about:

1. 50 years.
2. 100 years.
3. 200 years.
4. 400 years.

40. The Berlin Conference of 1884-85 resulted in:

1. the independence of many African countries.
2. the establishment of European claims to most of Africa.
3. the division of German colonies between England and France.
4. a policy of training Africans for eventual self-government.

41. The greatest number of countries in Africa south of the Sahara became independent:

1. before 1900.
2. between 1914 and 1919
3. between 1940 and 1945.
4. after 1955.

42. Of the following, the first country to secure its independence was:

1. Rhodesia.
2. Kenya.
3. Ghana.
4. Angola.

43. The largest amount of African territory still controlled by a non-African nation is claimed by:

1. Great Britain.
2. France.
3. Spain.
4. Portugal.

44. A major characteristic of most African governments today is that they are:

1. monarchies.
2. based on one party rule.
3. closely tied to leading nations in either the free or communist world.
4. coalitions of many tribal groups.

45. Julius Nyerere is associated with the country of:

1. Kenya.
2. Tanzania.
3. Southwest Africa.
4. Ivory Coast.

46. The term "apartheid" refers to:

1. the desire of Africans to govern themselves.
2. the establishment of European colonies in Africa.
3. a policy of complete separation of the races.
4. the movement for unification among the African states.

47. A major obatacle to economic development in many African states is:

1. the lack of basic education.
2. the tendency of Africans to hoard their money.
3. the destruction caused by World War II.
4. the unwillingness of Africans to leave their homes to find work.

48. Most of Africa's natural resources:

1. are undeveloped.
2. have little potential value.
3. can never be used.
4. have been used up.

49. Which of the following is the best definition of the term hypothesis?

1. A piece of information or a fact which can be easily checked.
2. An individual's frame of reference or way of looking at information.
3. A plan for testing to find the answer to a given problem.
4. A suggested explanation for an event or set of facts.

50. In studying the way of life of people in some other culture region, which of the following is a primary source?

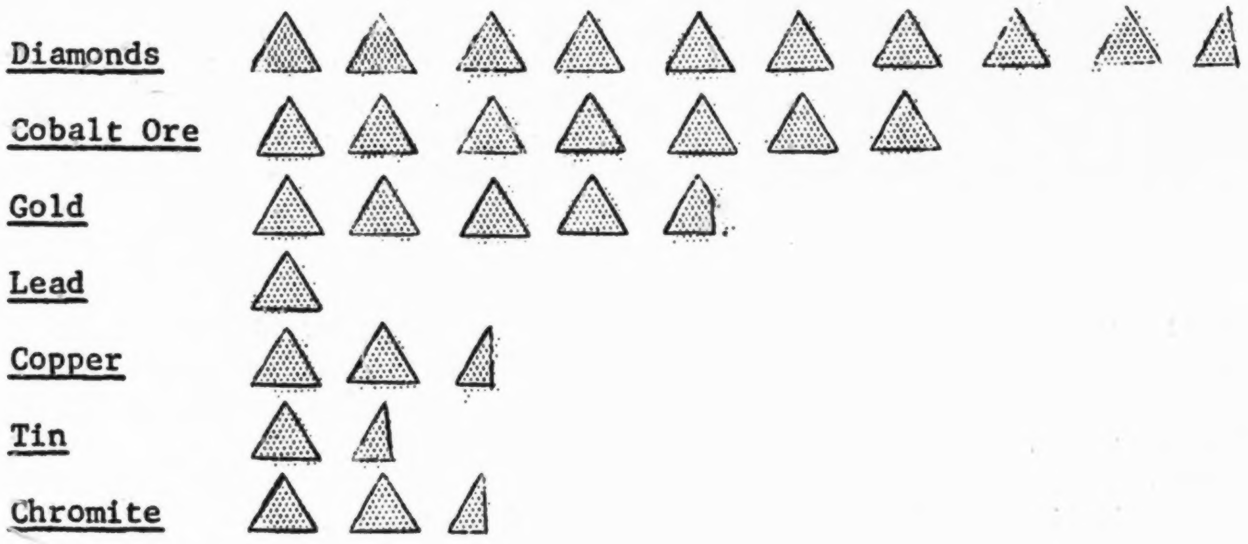
1. A diary kept by someone living in that cultural region.
2. A well-known geography textbook.
3. A novel written about people in the region.
4. A description of these people found in an encyclopedia.

51. Which of the following listings places the steps in the process of scientific inquiry in the most appropriate order?

1. Developing an hypothesis; Defining a problem; Forming a conclusion; Designing a plan for research.
2. Designing a plan for research; Developing an hypothesis; Forming a conclusion; Defining a problem.
3. Forming a conclusion; Designing a plan for research; Defining a problem; Developing an hypothesis.
4. Defining a problem; Developing an hypothesis; Designing a plan for research; Forming a conclusion.

DIRECTIONS: Questions 52-55 are based on the following graph:

Africa's share of the world's output of selected minerals:
each △ equals 10 percent.



52. Based on the above graph, what percentage of the world's supply of chromite is produced in Africa?
    1. 7%
    2. 25%
    3. 47%
    4. 75%

53. Which of the following statements is the most accurate summary of the above graph?
    1. Africa produces most of the world's mineral resources.
    2. Mineral production is Africa's greatest source of wealth.
    3. Africa is a major producer of several mineral resources.
    4. Mineral production is an important part of Africa's economy.

54. In the years following the discovery of a large supply of cobalt ore in Alaska, the number of symbols for cobalt ore on the graph would probably:
    1. increase.
    2. decrease.
    3. not be affected.

55. Based on the information in the above graph, political upheavals in Africa would have the most effect on the price of which of the following?
    1. Jewelry.
    2. Automobiles.
    3. Food.
    4. Electrical appliances.

DIRECTIONS: Questions 56-57 are based on the following paragraph:

The first outsiders to come to East Africa were Arab traders. Landing on the island of Zanzibar, they soon expanded their operations to the mainland, where they traded their cotton cloth, weapons and tools for ivory, spices and slaves. The first Europeans who became involved in East Africa were the Portuguese. Following the explorations of Vasco do Gama, the Portuguese, and soon the Germans and British, came to East Africa. Not satisfied with coastal trade, as the Arabs had been, the Europeans moved inland.

56. Of the following assertions made in the above paragraph, which could be most readily checked using only Arab sources of information?

1. The first outsiders to come to East Africa were Arab traders.
2. The Arabs landed first on the island of Zanzibar.
3. The Portuguese were the first Europeans to become involved in East Africa.
4. The Europeans were not satisfied with the coastal trade.

57. The above paragraph supports which of the following statements?

1. Slavery was introduced into Africa by the Arabs.
2. The Europeans were better traders than the Arabs.
3. Exploration of the interior of Africa was motivated partly by a desire for trade.
4. European traders were primarily interested in mineral products rather than spices or slaves.

DIRECTIONS: Questions 58-60 are based on the following list of statements that illustrate points of view that might be found in a study of Africa:

Colonial Agent -- "Colonial rule helped set the stage for African modernization."

Missionary -- "The Africans benefited from colonial rule because they learned how to live Christian lives."

African Nationalist -- "Colonial rule broke down traditional political institutions in Africa."

Anthropologist -- "African culture was damaged by colonial rule because it destroyed traditional religion and values."

58. If the statement by the Colonial Agent is true, which of the following might you most expect to find in parts of Africa which were never under colonial rule?

1. Stable governments
2. Poverty
3. Relatively modern industrial societies
4. Conditions similar to those that existed 500 years ago.

59. Which of the following would be least important to study in checking the accuracy of the statement made by the African Nationalist?

1. The forms of government that existed in Africa before colonial rule began.
2. The policies carried out by European governments during the period of colonial rule.
3. The reasons why Africans desired independence from colonial rule.
4. The political institutions that exist in Africa today.

60. The most obvious question or problem that arises from these four statements is:

1. What were the effects of colonial rule on Africa?
2. Why did Europeans establish colonial rule in Africa?
3. When did colonial rule effectively begin in Africa?
4. How did the Europeans benefit from colonial rule in Africa?

STOP

APPENDIX G - COOPERATING SCHOOLS

WEST

James Madison Jr. High
875 Wilkes Drive
Eugene, Oregon 97402

J. H. Brinley Jr. High
2832 Flamingo
Las Vegas, Nevada 89109

Ukiah High School
740 North Spring
Ukiah, California 95842

MIDWEST

Belvidere Jr. High
520 Pearl Street
Belvidere, Illinois 61008

George Washington High
2205 Forest Drive, S.E.
Cedar Rapids, Iowa 52403

Newton D. Baker Jr. High
3690 West 159th Street
Cleveland, Ohio 44111

Nolan Junior High School
1150 East Lantz
Detroit, Michigan 48203

Saint Joseph Jr. High
1520 Niles Avenue
St. Joseph, Mich. 49085

South View Jr. High
4725 Southview Lane
Edina, Minnesota 55424

Valley Forge High School
9999 Independence Blvd.
Parma Heights, Ohio 44130

SOUTH

Hand Junior High
Woodrow and Wheat Street
Columbia, S. Carolina 29205

League Junior High
Twin Lake Road
Greenville, S. Carolina 29609

Miami Northwestern High
7007 N. W. 12th Avenue
Miami, Florida 33150

EAST

Abraham Lincoln High
Rowland and Ryan Avenues
Philadelphia, Pa. 19136

East Seneca Jr. High
1445 Center Road
West Seneca, New York 14224

Kenwood Senior High
Stemmers Run Rd. & Maryland Ave.
Baltimore, Maryland 21221

Lebanon Jr. High
Bank Street
Lebanon, New Hampshire 03766

Peters Township High School
264 E. McMurray Road
McMurray, Pa. 15317

Plainview-Old Bethpage Jr. High
Stratford and Bedford Roads
Plainview, New York 11803

Riverside Jr. High
Riverside Park
Springfield, Vermont 05156